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INFRASTRUCTURE: A NATIONAL CHALLENGE

HEARING

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INFRASTRUCTURE: A NATIONAL CHALLENGE

WEDNESDAY, FEBRUARY 29, 1984

Congress of the United States,
Subcommittee on Economic Goals and Intergovernmental Policy of the Joint Economic Committee,
Washington, DC.

The subcommittee met, pursuant to notice, at 10:05 a.m., in room SR-325, Russell Senate Office Building, Hon. Lee H. Hamilton (chairman of the subcommittee) presiding.

Present: Representatives Hamilton, Mitchell, and Hawkins.

Also present: James K. Galbraith, deputy director; Mary E. Eccles, Dale Jahr, and Deborah Matz, professional staff members.

Representative Mitchell [presiding]. Our hearing will now come to order.

First of all, let me express that Congressman Lee Hamilton hopes to get here. He is delayed this morning, but he is most anxious to be here. I will read his opening statement.

OPENING STATEMENT OF REPRESENTATIVE HAMILTON, CHAIRMAN

I am pleased to welcome a distinguished panel of witnesses to discuss the infrastructure study released by the committee.

This study, coordinated by the Graduate School of Public Affairs at the University of Colorado, evaluates the present condition of the infrastructure in 23 States, as well as infrastructure needs and available financing through the end of the century.

A functioning and well-maintained national infrastructure—roads, bridges, mass transit, water, and sewer systems—is essential to sustaining all aspects of our economic and social systems. Yet, information concerning the condition of our public facilities has, in the past, been inadequate. This study, under way for the past 2 years, is a major accomplishment in infrastructure research. It provides a quantity and quality of information heretofore lacking about our Nation's infrastructure.

The data provided by the study are staggering. National needs are estimated at almost $1.2 trillion, available financing of $700 billion, and a financing gap of some $450 billion. Nevertheless, this study will enable policymakers at all levels of government to develop reasonable approaches to address the problems of deteriorated or inadequate public facilities. I believe this report will be widely used and will establish a basis for future research on this important issue.

I want to express the appreciation of the Joint Economic Committee to all who made this report possible. Dozens of individuals and organizations provided assistance, and obviously the committee is most grateful to each and every one of those persons.

In particular I would like to thank our distinguished advisory committee, chaired by our former colleague and very dear friend, Henry Reuss, the former chairman of the Joint Economic Committee.

I am absolutely delighted to see the panel here, on a very personal basis. Mr. Kaplan and I worked very closely together. I just had the pleasure of meeting Mr. Goldmark this morning. Mayor Royer, it looks like we are together very, very frequently now, and my good friend, the Governor from Colorado, will be here a bit later.

Other members of the subcommittee will be joining us as their schedules permit. I am delighted that Congressman Augustus Hawkins is here, from the State of California.

Do you have a statement you wish to make?

Representative HAWKINS. Not at this time, thank you.

Representative MITCHELL. If not, just before you give your statement, Congressman Reuss, I want to say publicly that I miss enormously the many ways in which you have enlivened hearings by some classical illustrations of problems, some referring to antiquity, and some more modern, but always in a very colorful fashion.

Henry, I remember when you were questioning one witness and you said something about the crashing of timbers in the Far West would drown out the sounds of discord. And I shall never forget when, during one hearing, you alluded to the plight of—what was it?—those little things off the coast.

Mr. REUSS. The anchovies. [Laughter.]

Representative MITCHELL. The anchovies—which was a remarkably fascinating illustration to be used in a deeply serious hearing.

It is always a pleasure to see you here. Thank you for coming.

STATEMENT OF HON. HENRY S. REUSS, CHAIRMAN, NATIONAL INFRASTRUCTURE ADVISORY COMMITTEE

Mr. REUSS. Thank you, Congressman.

It may still be said that never an anchovy falls to Earth that I don't concern myself with it. [Laughter.]

I and my colleagues are delighted to be here at my old alma mater where I served for a quarter of a century, which was a pleasure to me under the Employment Act of 1946, under Humphrey-Hawkins, and other great instances of legislation, and toward the end of my tenure as chairman, this committee very sensibly commissioned the national infrastructure project, and I have been helping out coordinating the work of the advisory committee on the project.

We have, as you know, just filed with the Joint Economic Committee and the public our report, and that is why we are here in force this morning to try to characterize a little bit.

The subject of our infrastructure is one as old as ancient Rome's. They had their aqueducts and their drains, their highways and their bridges, and that same base, that foundation, that infrastructure, is what keeps us all going today. There can be no education, no health, no culture, no security, no defense, no anything, unless we have an infrastructure on which to base it.

And it is well known, and my brother witnesses will testify this morning, that much of America's infrastructure is in ruins. One of the foremost contributions of our report is, with the aid of the Governors of half the States, to try to quantify the shortfall if we do nothing in the repair and replacement of our infrastructure of roads, bridges, mass transit, water and sewer systems. It comes out arithmetically at something like $442 billion that are needed that are not there. And it would be very tempting to look at the serendipitous result of the Grace Commission which found that precise number of $442 billion lying around that could be used. I hope that much of it will be, but it would be futile to say that you can take that $442 billion, juxtapose it against the infrastructure needs, and solve the problem.

No; we have to search elsewhere for our solution, and here one of the significant recommendations of the report is that there be set up a National Infrastructure Fund. We do try to put some flesh on those bones and suggest what a National Infrastructure Fund might be, but I want to be clear that in doing that we aren't suggesting that we have the last word on it, that there couldn't be variations on that theme.

But at any rate, the National Infrastructure Fund that we tentatively envisage would be a federally chartered corporation which would have the power to enter the Government bond market and issue securities, either on its own or through the Federal Financing Bank. And they would be taxpaying securities, subject to the Federal income tax like other U.S. obligations.

The proceeds of this bond issue would then be available to the 50 States on some basis set forth by the Congress, to aid in the repair, rehabilitation, and new construction of the five great infrastructure areas.

We believe that there are a number of important benefits from the proposed National Infrastructure Fund.

The first is efficiency. The Brookings Institution and its Research Director, Joseph Pechman, have estimated—and I quote from their study:

> Empirical studies suggest that the savings in interest payments by State and local governments is less than half the revenue loss to the Federal government under the traditional tax-exempt State bonding system.

That isn't to say that we need any erosion of the tax-exempt bond system. We are simply saying that something new that has to be added on top of that should not be just more State bonds, because the revenue loss is, as Brookings suggests, about double that of the gain in infrastructure development in the States and localities.

The second plus in favor of the National Infrastructure Fund is like unto the first, namely, if you tried to do it all by additional State bonds, you would so engulf and overwhelm the tax-exempt market that the interest rates that have to be paid now, which are an outrageous 9½ percent, would go up to 10, 11, and 12 percent, so that the difference between the interest rate on taxpaying and tax-exempt bonds would soon disappear.

A third major advantage of the National Infrastructure Fund is that it would give certainty to the States and localities for the rest of this decade, or better, for the next 10 years. If you look at successful rate programs in the past, they have always had that element of certainty—the Marshall plan of George Marshall. There this Nation said, "Look, for four years we're going to help Europe get back on its feet, and that's going to cost"—and the sum was big in those days—"$4 billion a year." And it was done, and Europe got back on its feet.

Then, in the 1950's, President Eisenhower determined that we needed a System of Interstate Highways, and so again a program was developed which was multiyear in its duration, and which had set sums of money which the States and localities could rely on.

We think that element of continuity has to be part of any National Infrastructure Fund.

And the fourth and last feature of this Fund, which I think is commendable, is that it would, for the first time, enable us to do some capital budgeting at the Federal level.

You and I, Mr. Mitchell, and Mr. Hawkins, used to spend a lot of our time trying to work out a capital budget for the United States, and we always bogged down because there were so many marginal elements. Education certainly is capital, yet to try to quantify it in a capital budget presented some problems. So, I suppose, is national defense. But there again that represents a very iffy addition to the capital sector.

But nobody can deny that if there is such a thing as capital—and there is—bridges, highways, port facilities, sewer structures, and water systems are par excellence capital, so you would have a marvelous way of getting into capital budgeting which we desperately need, in a way that public would understand.

So those are the main features of our report.

And now, for the details, I am going to turn to our distinguished vice chairman, Peter Goldmark, executive director of the Port Authority of New York and New Jersey, and Lee White of Smith Barney, Harris Upham; to our study director, Dean Marshall Kaplan of the University of Colorado Graduate School of Public Affairs, and to Mayor Charles Royer of Seattle, and Gov. Richard Lamm of Colorado.

Representative MITCHELL. Mr. Reuss, just before we turn to them, I have a concern about the number of people from the State of Colorado after last evening's events. [Laughter.]

Does this portend a growing onslaught?

Don't answer that. [Laughter.]

Your prepared statement, Mr. Reuss, without objection, will be entered in full in the record.

Mr. REUSS. Thank you.

[The prepared statement of Mr. Reuss follows:]

PREPARED STATEMENT OF HON. HENRY S. REUSS

I am delighted to testify before the Joint Economic Committee, on which I served for a quarter of a century. During my tenure as Chairman, in December, 1982, the National Infrastructure Project was commissioned.

Our Nation's infrastructure -- its roads, bridges, mass transit, water and sewer systems -- is its lifeline. The vitality of our Nation's economy, its productive and commercial capacity, the health and safety of its residents, rely upon the existence and assurance of modern, well-maintained facilities. But in order to maintain and expand these facilities we must have adequate information about their condition, and the nation's infrastructure needs and resources. And we must have down-to-earth recommendations about how the needs can be met.

With the assistance of the Graduate School of Public Affairs at the University of Colorado, and with the cooperation of the Governors of 23 states, the Project has now been completed.

As the retiring chairman of the JEC, I have chaired the National Infrastructure Project's Advisory Committee, composed of governors, mayors, scholars, and representatives of labor and the private sector. We today present our findings and recommendations.

A major finding of the study is that a $444 billion shortfall exists between infrastructure needs and available resources. It is clear that state and local governments cannot bear these costs alone. For one thing, states have diverse capacity problems. Some are limited by already high taxes, and debt which is at or near their mandated ceilings, while others are restricted by relatively low tax bases. In still other states, investment options are constrained by self-imposed debt and tax limitations.

Even if fiscal capacity were not an issue, the already-crowded tax-exempt market could not withstand such high demand pressure. The Advisory Committee, therefore, has concluded that a new mechanism is needed to address this problem. Among the options that should be considered we believe, is a National Infrastructure Fund (NIF).

The NIF would be a federally-chartered corporation which would raise funds through the sale of long-term taxable bonds or through the Federal Financing Bank. It would then use its revenue to capitalize state lending entities or existing state or local infrastructure programs. As set forth below, Congress would provide total or partial federal payment of the interest on the NIF debt. In turn, states could make below-market interest rate loans to finance appropriate state or local infrastructure projects. States would be required to repay the principal and any interest charge through user charges or tax revenues.

The federal government would require that the funds be used for any of five specific purposes -- highways, bridges, mass transit, water systems, and sewer systems. These are vital components of our infrastructure which the Advisory Committee believes should be maintained on a priority basis.

The Advisory Committee avoided recommending specific interest rate subsidy levels. But the minimum subsidy, it seems to me, should at least equal the amount of revenue which the federal government would stand to lose if the funds had instead been raised through the sale of tax-exempt bonds. According to the Federal Tax Policy, by Joseph A. Pechman of Brookings Institution, 1984, "Empirical studies suggest that the savings in interest payments by state and local governments is less than half the revenue loss to the federal government." (P. 117) Thus, instead of charging states the roughly 12 percent current rate of interest on long-term governments, roughly 6 percent could be charged without cost to the Federal Treasury.

A major advantage of the NIF is that it would provide a stable source of funds for state and local governments. Congress could authorize the infrastructure program over a considerable period of time, for example 10 years, and thus provide a predictable resource for state and local governments over a 30 year period (assuming 20 year bonds were sold).

The NIF could well be the first example of capital budgeting at the federal level.

The Advisory Committee, in refraining from recommending funding levels or allocation formulas, felt that these decisions were best left to congressional discretion.

The Advisory Committee also recommends that Congress mandate development of a national infrastructure needs assessment process to help the nation to define its infrastructure needs on a continuing basis, and that state and local governments be required to commit themselves to enhance their own infrastructure planning, management, and financing capacity.

I hope our report and recommendations will be useful to you. I now turn, for a fuller explanation, to our Committee Vice Chairmen, Peter C. Goldmark, Jr., Executive Director of the Port Authority of N.Y. and N.J., and Lee White of Smith Barney, Harris Upham; to our study director, Dean Marshall Kaplan of the University of Colorado Graduate School of Public Affairs; and to Governor Richard Lamm of Colorado and Mayor Charles Royer of Seattle.

Representative MITCHELL. Mr. Goldmark.

STATEMENT OF PETER C. GOLDMARK, JR., AND LEE WHITE, VICE CHAIRMEN, NATIONAL INFRASTRUCTURE ADVISORY COMMITTEE

Mr. GOLDMARK. Congressman, you have my full testimony. I am going to make a very short statement on behalf of both Lee White and myself, and then Mr. White will add a few remarks.

There is another coincidence here aside from all the names from Colorado. I would like you and Mr. Hawkins to know that Mr. White and I share one great sin in our pasts, which is that we have both been budget directors. Therefore, we have two people here who are used to saying no; that, maybe, adds a little more weight to the fact that we are joining with Congressman Reuss today in saying yes to something that this country has to do.

Too often the infrastructure issue has been assessed only in isolated fragments, and one of the reasons we feel this study is important is because it proceeded from a wider perspective. We diagnosed the condition of all five basic life-support systems—highways, bridges, mass transit, water, and sewer. We examined the state of infrastructure in every region of the country. We sought, in broad strokes, to define the proper roles for Federal, State, and local government.

We believe that only by drawing together all of the elements of the infrastructure equation will we begin to give this issue the high priority it deserves. Our report outlines policy prescriptions which can help to guide congressional consideration of this issue. But as significant as the specific suggestions we put forward is our conviction that infrastructure investment must be seen as a matter of fundamental national importance. Rebuilding our capital stock must be a major objective on the American domestic agenda.

Before jumping into the technical debate of how to structure interest rate subsidies or how to make grant programs more flexible, we all need to answer one central question: Will the Federal Government be a coherent, galvanizing force behind a comprehensive attack on our infrastructure problems? Unless this issue engages the concentrated attention of the Congress, we will not be able to arrest the current cycle of infrastructure decline.

The infrastructure issue is centrally related to the single most critical domestic question Congress and the country face: How to ensure in the period between now and the end of the century, the competitiveness of the American economy. We can hardly expect to elevate our competitive position while permitting a continued decline in our infrastructure systems.

What I am saying is that the issue is not only potholes; it is productivity as well. Yet, in the debate over how to improve our productivity, the role of infrastructure is often overlooked.

Efforts to bolster our productivity have focused on technology, trade, retraining, and antitrust questions. We stress the development of a fifth generation of computers while neglecting the redevelopment of our generation's transportation and water systems. The United States will not have the strongest, most technologically advanced, most resilient economy in the world if we cannot efficiently move people, and goods, and provide an adequate supply of clean water.

Even the briefest sampling of our infrastructure ills shows how our competitive position is being undermined.

New York City suffers over 400 water main breaks a year, one of which shut down its garment industry for several days in 1983 during the industry's busiest time of the year.

Boston and Houston both lose 40 percent of their water before it reaches the tap.

In Oklahoma, water from the Ogallala aquifer is being consumed for agricultural use faster than nature can replenish it.

In the State of Washington only 14 percent of the people are served by secondary wastewater-treatment facilities.

In Maine, 63 percent of the highways need immediate improvements.

In several New Jersey cities, sewers and pipes are being replaced on a 400–800-year cycle.

In Texas, over 17,000 bridges are deficient.

State and local governments will have to generate most of the money to address this problem. All of us understand and are saying this is additionally a problem of State and local governments, and are not saying we should shift the onus of that responsibility to the Federal Government. We are saying—and the Chairman Reuss said it more effectively—that only the Federal Government can declare an effective end to decades of drift and disinvestment and summon the national will for a new era of infrastructure reinvestment. Only the Federal Government can define the challenges before the entire Nation, then redefine its own role in meeting these challenges.

Any new Federal role should revolve around the borrowing power of the Federal Government. The U.S. Government is, after all, the single most powerful and most creditworthy borrower in the world. A very small portion of our borrowing capacity should be harnessed to help State and local governments build and rebuild these life-support systems. Federal borrowing to meet our infrastructure needs must be seen not as a drain on the Treasury, but as an indispensable capital investment enabling us to sustain and strengthen our competitive position.

At an earlier stage in our history we carried out an ambitious and farsighted effort to build a network of transportation and water systems across the country. Our dams, canals, hydrosystems, railroads, and interstate highways brought our people closer together and brought our economy to a point of unparalleled strength. Today a system which was once a source of pride has become a source of peril.

Therefore, as Chairman Reuss said, we are proposing a National Infrastructure Fund as the centerpiece of a new investment strategy. This new financing vehicle would provide a predictable, sustained, flexible basis of support for infrastructure construction and renewal. It would represent a capital solution to a capital problem.

The appeal of such a National Infrastructure Fund derives not only from what this financing mechanism would do, but also from what it would not do. The fund would not further strain the heavily burdened tax-exempt market. It would not lead to an enormous increase in the

Federal deficit. It would not result in the wholesale redistribution of responsibility to the Federal Government.

We need a new Federal vehicle, supplementing existing programs, which can unite our regions and allow them to focus their individual efforts on the common national objective. We believe the idea of a National Infrastructure Fund will find strong support in all regions of the country. No region has escaped the effects of decades of disinvestment and no region has a stake in preserving the present disjointed approach to infrastructure issues. Every part of our country has a vital interest in the search for new funding sources and new forms of cooperation among the various levels of government. Among the members of this National Infrastructure Advisory committee, Congressmen, you will note there are five or six Governors from all parts of this country, and mayors from all parts of the country, and all of us recognize the task ahead, and the need, on this issue, to get away from the regional disputes which have marked it up to now.

All sections of the country are plagued by inadequate water, wastewater, and transportation systems. The chart and map we have brought today illustrate that point. It simply shows that this is a national problem with great similarities in the need as it was analyzed in various regions of the country.

I will let Lee explain the rest of that.

Building upon interregional cooperation and widespread citizen support for infrastructure improvement, Congress can fashion an effective, long-term remedy to the problem of decaying life-support systems. At a time of $200 million budget deficits, our advisory committee is not recommending a massive new investment of Federal dollars. But if our proposals represent the most we can do, they are also the least we must do if we are to upgrade basic infrastructure systems and thereby strengthen the competitive position of our economy.

Lee, I know you would like to add something.

Mr. **White**. Thank you, Peter.

Congressman, what Peter Goldmark has said——

Representative **Mitchell**. Will you please pull your mike a little closer. In this cavernous room it is difficult for those in the back to hear.

Mr. **White**. Ditto to what Peter Goldmark has said.

This is a fascinating idea that deserves scrutiny by this body, a National Infrastructure Fund that makes State and local governments healthier and gives benefits to all of them.

Speaking for the committee, and perhaps myself in some instances, I am going to address the IDB issue very briefly. I want to quickly say I am not speaking on behalf of my firm of public securities associations, but I think many in that share my views.

It is ironic that as we present our ideas on infrastructure, there are some congressional efforts to hinder this very process of increasing, improving, and enhancing the Nation's infrastructure because of debate about IDB's.

The committee felt that there does need to be congressional oversight to make sure that the legitimate public purpose of tax-exempt bonds is maintained, that these are useful for many pressing capital infrastructure needs studied in the report. However, arbitrary limits volume, height, and arbitrage permitted are patently inconsistent with the needs of the Nation's infrastructure.

Yes, there are IDB abuses. Yes, there have been blurred distinctions between corporate and public financing, and debentures of the Treasury, and that needs to be looked at. However, the proposed IDB limitations unfairly limit essential infrastructure projects like port facilities, air pollution control facilities, airport expansions, and solid waste recovery projects. And in the West this is particularly devastating. The proposed IDB limitations for New Mexico, Montana, and Idaho will allow perhaps just one major air pollution, control facility to be built in those coal-rich, power-generating States and eliminate the authority for many of these other essential infrastructures.

It's curious that these restrictions are so widely discussed here in Congress when it seems to be that outside of this vicinity, in other words, in the country at large, so few people want those restrictions to happen.

And in my personal view, the increase in deficit is principally caused by pension and medical-care entitlements, defense spending increases. Federal debt service costs, and revenue reductions.

I contend that the IDB restrictions that pertain to these public facilities are a red herring, and if enacted will make the infrastructure problem worse and not better.

Representative MITCHELL. Thank you, sir.

The joint statement of you and Mr. Goldmark will be entered in full in the record, without objection.

[The joint prepared statement of Mr. Goldmark and Mr. White follows:]

JOINT PREPARED STATEMENT OF PETER C. GOLDMARK, JR., AND LEE WHITE

Thank you, Mr. Chairman. We are very pleased to be here today to discuss the report issued by the Joint Economic Committee's National Infrastructure Advisory Committee. By commissioning this study, the Joint Economic Committee has stimulated a valuable contribution to the infrastructure debate.

Too often, the infrastructure issue has been assessed only in isolated fragments. Our study proceeded from a wider perspective. We diagnosed the condition of all five basic life-support systems -- highways, bridges, mass transit, water, and sewer. We examined the state of infrastructure in every region of the country. We analyzed the present role, and sought, in broad strokes, to define the proper role for federal, state, and local government.

We believe that only by drawing together all of the elements of the infrastructure equation will we begin to give this issue the high priority it deserves. Our report outlines policy prescriptions which can help to guide Congressional consideration of this issue. But as significant as the specific suggestions we put forward is our conviction that infrastructure investment must be seen as a matter of fundamental national importance. Rebuilding our capital stock must be a major objective on the American domestic agenda.

Before jumping into the technical debate of how to structure interest rate subsidies or how to make grant programs more flexible, we all need to answer one transcendent question: Will the federal government be a coherent, galvanizing force behind a comprehensive attack on our infrastructure problems? Unless this issue engages the concentrated attention of the Congress, we will not be able to arrest the current cycle of infrastructure decline.

The infrastructure issue is centrally related to the single most critical domestic question Congress and the country face: how to insure the competitiveness of our economy. We can hardly expect to elevate our competitive position while permitting a continued decline in our infrastructure systems. Yet in the debate over how to improve our productivity, the role of infrastructure is often overlooked.

Efforts to bolster our productivity have focused on technology, trade, retraining and antitrust questions. We stress the development of a fifth generation of computers while neglecting the redevelopment of our generation's transportation and water systems. The United States will not have the strongest, most technologically advanced, most resilient economy in the world if we cannot efficiently move people and goods and provide an adequate supply of clean water.

We must recognize the relationship between public infrastructure and private investment. For example, businesses making location or relocation decisions now factor in the implications for productivity and profits not only of direct production costs and labor agreements, but also of employee tardiness and delivery delays caused by deteriorating transportation systems. The Transportation Systems Center of the United States Department of Transportation has determined that the present rate of decline in our highways would result by 1995 in a decline in labor productivity of 3.6 percent in non-manufacturing jobs and 2.7 percent in manufacturing. There would also be a 3.2 percent loss of Gross National Product. It is time our nation joined every other industrial democracy in recognizing the connection between infrastructure and economic productivity.

Even the briefest sampling of our infrastructure ills shows how our competitive position is being undermined:

--New York City suffers over 400 water main breaks a year, one of which shut down its garment industry for several days in 1983 during the industry's busiest time of the year

--Boston and Houston both lose 40 percent of their water before it reaches the tap

--in Oklahoma, water from the Ogallala Aquifer is being consumed for agricultural use faster than nature can replenish it

--in Oregon, only 14 percent of the people are served by secondary wastewater treatment facilities

--in Maine, 63 percent of the highways need immediate improvements

--in several New Jersey cities, sewers and pipes are being replaced on a 400-800 year cycle

--in Texas, over 17,000 bridges are deficient

Similarly distressing statistics can be assembled for all infrastructure systems and all parts of the country. Our study estimates a gap of about $450 billion between projected revenues and infrastructure needs over the rest of the century.

State and local governments will have to generate most of the money to close this gap. But only the federal government can declare an effective end to decades of drift and disinvestment and summon the national will for a new era of infrastructure reinvestment. Only the federal government can define the challenges before the entire nation, then redefine its own role in meeting these challenges.

Any new federal role should revolve around the borrowing power of the federal government. The United States Government is the single most powerful and most credit-worthy borrower in the world. A very small portion of our borrowing capacity should be harnessed to help state and local governments build and rebuild life-support systems. Federal borrowing to meet our infrastructure needs must be seen not as a drain on the Treasury, but as an indispensable capital investment enabling us to sustain and strengthen our competitive position.

At an earlier stage in our history, we carried out an ambitious and far-sighted effort to build a network of transportation and water systems across the country. Our dams, canals, hydro-systems, railroads, and interstate highways brought our people closer together and brought our economy to a point of unparalleled strength. Today a system which was once a source of pride has become a source of peril. Our task now is to renew the imaginative commitment to infrastructure investment which once characterized our country.

We are proposing a National Infrastructure Fund as the centerpiece of a new investment strategy. This new financing vehicle would provide a predictable, sustained, flexible basis of support for infrastructure construction and renewal. It would represent a capital solution to a capital problem.

The appeal of a National Infrastructure Fund derives not only from what this financing mechanism would do, but also from what it would not do. The Fund would not further strain the heavily-burdened tax exempt market. It would not lead to an enormous increase in the federal deficit. It would not result in the wholesale redistribution of responsibility to the federal government.

We need a new federal vehicle, supplementing existing programs, which can unite our regions and allow them to focus their individual efforts on the common national objective. We believe the idea of a National Infrastructure Fund will find strong support in all regions of the country. No region has escaped the effects of decades of disinvestment and no region has a stake in preserving the present disjointed approach to infrastructure issues. Every part of our country has a vital interest in the search for new funding sources and new forms of cooperation among the various levels of government.

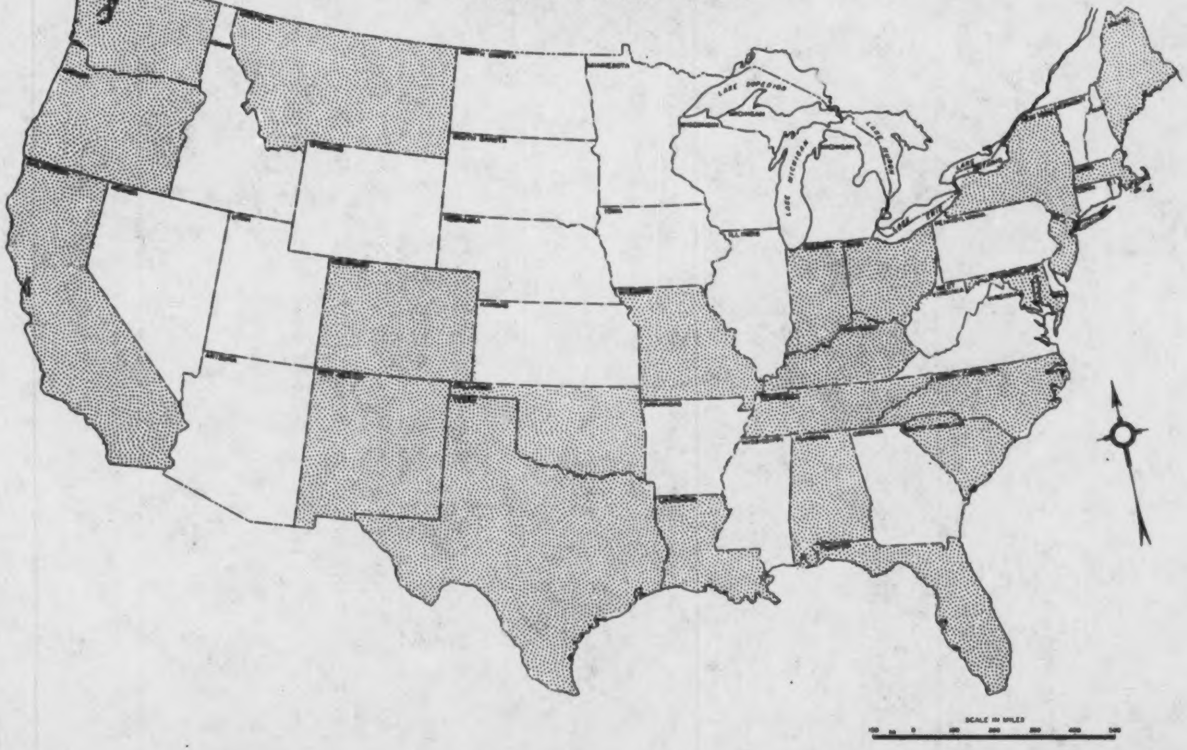
Probably the most striking finding of our study is the extent to which all sections of the country are plagued by inadequate water, wastewater, and transportation systems. The chart and map we have brought today illustrate that point. The chart depicts in rough terms aggregate infrastructure needs, projected revenues, and resulting shortfall in absolute dollar terms between now and the year 2000. The map presents overall infrastructure needs for each state on an annualized per capita basis and demonstrates that capital investment in these life-support systems is a major concern in every region.

The common interest in arresting infrastructure decline was reflected in the sense of inter-regional harmony guiding the deliberations of the Advisory Committee. No one defined the issue in terms of the competing claims of Western waters systems and Eastern subway systems. Those of us from the East, accustomed to protracted political warfare, had to undergo a rapid reorientation. We learned to take "yes" for an answer, and together with our colleagues from other regions, we worked on problems which are national in scope and proposed solutions which will help every state. Just as our panel benefited from the absence of regional recrimination, so, too, can the national infrastructure debate move forward relatively free of sectional conflict.

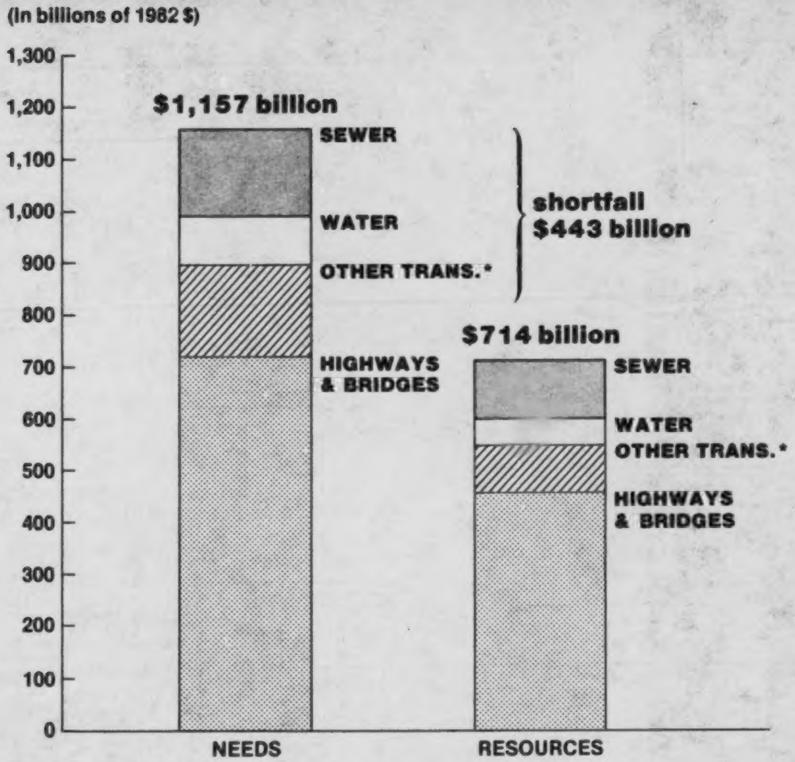
A national program of infrastructure renewal should draw a positive response from the American people. All over the country, we find an increased awareness of the link between sound infrastructure and a strong economy. Last November, capital spending programs were approved by voters in virtually every state where these bond issues were on the ballot.

Building upon inter-regional cooperation and widespread citizen support for infrastructure improvement, Congress can fashion an effective, long-term remedy to the problem of decaying life-support systems. At a time of $200 billion budget deficits, our Advisory Committee is not recommending a massive new investment of federal dollars. But if our proposals represent the most we can do, they are also the least we must do if we are to upgrade basic infrastructure systems and thereby strengthen the competitive position of our economy.

NATIONAL INFRASTRUCTURE STUDY
PARTICIPATING STATES

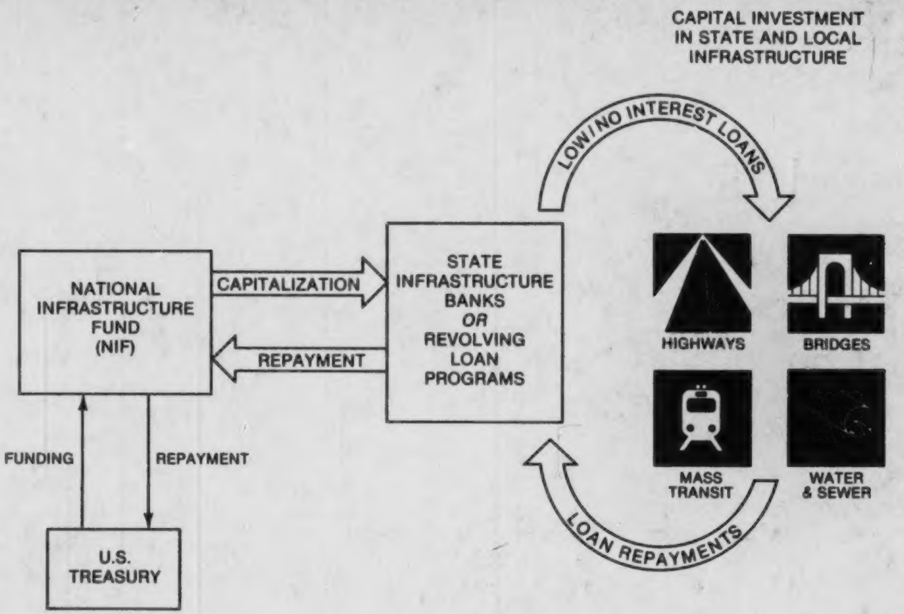

LAKE SUPERIOR
LAKE MICHIGAN
LAKE HURON
LAKE ERIE
LAKE ONTARIO
SCALE IN MILES
100 50 0 100 200 300 400 500

UNITED STATES INFRASTRUCTURE NEEDS VS RESOURCES 1983-2000



*Other Transportation—Mass Transit, Aviation, etc.

NATIONAL INFRASTRUCTURE FUND



NATIONAL INFRASTRUCTURE FUND (NIF)

CAPITALIZATION

REPAYMENT

STATE INFRASTRUCTURE BANKS *OR* REVOLVING LOAN PROGRAMS

FUNDING

REPAYMENT

U.S. TREASURY

CAPITAL INVESTMENT IN STATE AND LOCAL INFRASTRUCTURE

LOW/NO INTEREST LOANS

HIGHWAYS

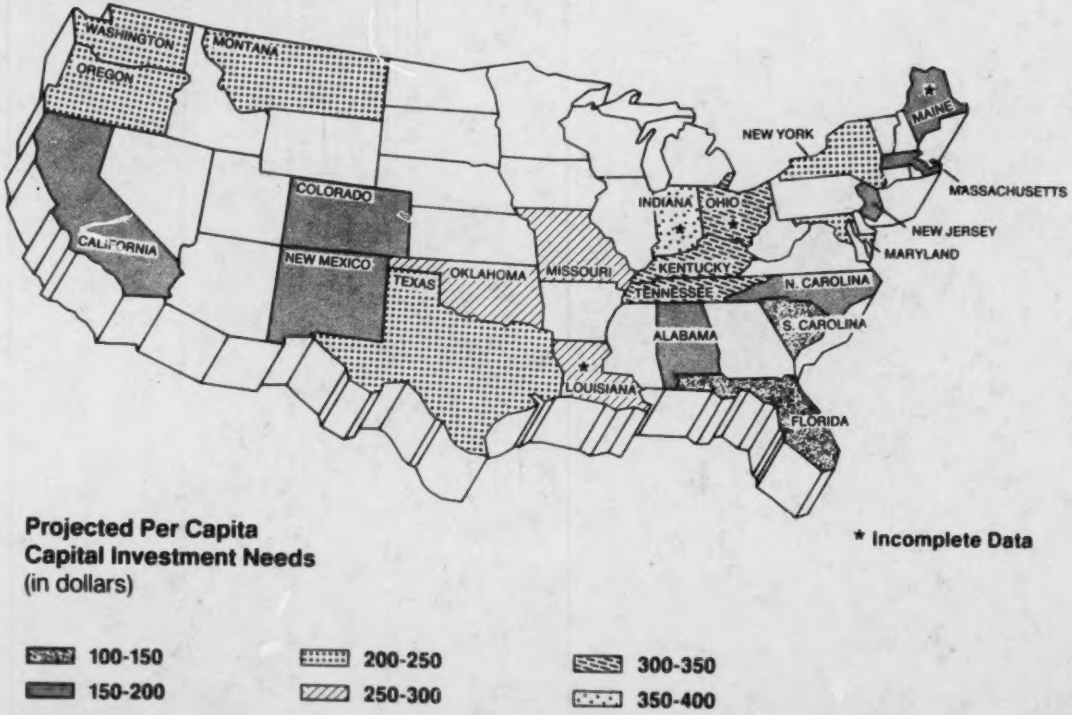
BRIDGES

MASS TRANSIT

WATER & SEWER

LOAN REPAYMENTS

NATIONAL INFRASTRUCTURE STUDY
Average Annual Per Capita Capital Investment Needs 1983-2000 (1982 dollars)


WASHINGTON
OREGON
MONTANA
CALIFORNIA
COLORADO
NEW MEXICO
TEXAS
OKLAHOMA
MISSOURI
LOUISIANA
INDIANA
OHIO
KENTUCKY
TENNESSEE
ALABAMA
FLORIDA
N. CAROLINA
S. CAROLINA
NEW YORK
MAINE
MASSACHUSETTS
NEW JERSEY
MARYLAND
* Incomplete Data
Projected Per Capita
Capital Investment Needs
(in dollars)
100-150
150-200
200-250
250-300
300-350
350-400

Representative Mitchell. Mr. Kaplan.

STATEMENT OF MARSHALL KAPLAN, DEAN, GRADUATE SCHOOL OF PUBLIC AFFAIRS, UNIVERSITY OF COLORADO, DENVER, CO

Mr. Kaplan. Congressman Mitchell, the last time I was before you we discussed urban policy. You were helpful, decent, and humane. It's good to be with you again. I think the infrastructure problem is an urban problem, as well as a national problem.

Representative Mitchell. I would just be delighted if that could be repeated again.

Mr. Kaplan. I also want to remind Congressman Hawkins that in 1960, I chaired Governor Pat Brown's Housing Committee with Vic Palmieri and Ned Eichler. You were very helpful. It is like old home week, I am glad I am back to see you again.

I am pleased to be able to present the advisory board's staff analysis and its findings. I will leave with you a copy of my testimony for the record. I will talk to some of the highlights in our report. I will be brief.

First of all, I want to commend all of the governors, the staffs of the universities, and the advisory board chaired by Congressman Reuss. It was a good advisory board. It made my life easier. It was a pleasure to work with the team. And it was a team.

This is the first study that attempted on a State-by-State basis to aggregate national infrastructure needs. We came to four or five key conclusions. I would like to relate them to you.

One, the problem, as Lee, Peter, and Mr. Reuss suggested, is a national problem. That is, there is $1.157 trillion of needs to repair and maintain our infrastructure through the year 2000. However, when you add the anticipated revenues of $714 billion, the gap is $443 billion—again through the year 2000.

In no State—in no State of the country—does the anticipated revenue meet the needs. So it is a national problem. In all States current outlays do not meet what is required. The increase, if you take needs over current outlays, is 204 percent in the Midwest, and nearly 30 percent in the West.

So again, it is a national problem.

But on a positive note, it is not $3 trillion as we heard 2 years ago. It is a manageable problem, if we begin right now and if we sustain our commitment for the 20-year period we are talking about; $443 billion is the gap. Annualized it comes to about $20 billion a year. Just for purposes of discussion, if you cut the present defense budget to 4 percent real growth, you will be able to respond to the infrastructure problem on an annual basis.

Per capita needs range from $150 to $250. The figure is something this country can respond to and respond to very well.

Clearly, the problem is not limited to one region of the country. Indeed, there is more variation internal to several regions than there is between regions. There is an opportunity to build policy consensus. There are needs in all regions of the country. The standard deviation internal to the regions is much larger than it is between the regions.

This is an important point. We do not have to get into the East-West, Sunbelt-Frostbelt type of rhetoric that prevent a rational response to a policy priority.

The individual States face key and diverse problems within their boundaries. Governor Lamm will tell you that in Colorado we have had an energy boom-and-bust cycle that has created infrastructure needs. We have an agricultural zone on the eastern slope where the aquifer causes us a problem. And then we have the city of Denver, whose infrastructure problems resemble those of some Eastern cities.

And Seattle, as Mayor Royer will tell you soon, has some of the same problems as the city of Boston.

You can not categorize the infrastructure problem as a problem that separates either States or different regions of the country.

Functionally, 60 percent of the needs are in the highway or surface transportation area. In the last 10 years highways were mainly a Western/Southern problem, but as you look ahead 20 years, highways become a Midwest and Eastern problem. Some of the sewage treatment problems that were problems in the Midwest and East now have become a Western problem. So, in effect, the regions are moving closer to coincidence. Again, that is important from a policy perspective.

Now, let us talk a few minutes about the role of the Feds.

Clearly, Federal policies and practices have helped to respond to infrastructure problems over the last 10, 15, 20 years. However, in the last 3 or 4 years, we have seen significant problems with respect to Federal policy.

First, Federal policy has been tremendously unpredictable. Existing grant programs have declined one-quarter in real terms since 1979. Formula changes in existing grant programs have made it tough for States and cities to respond to their infrastructure problems.

The skewing of regulations denying States and cities needed flexibility to use grants for upgrading infrastructure, for maintenance, for innovative loan funds still exist. Regrettably, Governors and mayors are limited in their ability to use existing categorical programs to meet their infrastructure needs.

In a similar vein, Federal standards that adhere to and govern infrastructure development often do not carry with them assistance programs. So the Federal Government sets the standards and State and local governments do not have grant funds or assistance programs to respond to them. I believe this creates both an efficiency and equity problem.

The last way the Federal Government has hurt State and local governments in responding to their infrastructure problems, I think, relates to the effect of the IRS Code. Amendments to marginal tax rates have reduced the incentive for many investors to invest in the tax-exempt bond market. Further, the crowding of the tax-exempt bond market by non-public-purpose issues often raises the cost of infrastructure debt.

The Federal Government has a role to play in the future. The economy is affected by the decline in American infrastructure. It is clear that if you cannot get to a job easily, because the roads are not in good repair, you cannot work efficiently. It is clear that if you cannot get the goods to the market, there is extra cost to the consumer. The health of the economy is a primary justification for the Federal role in infrastructure. But there are other reasons.

Pollution does not stop at the State line. Therefore, there is a role for the Federal Government to play if, by not attending to infrastructure problems, there are problems created throughout regions of the country and between States.

Finally, if the Federal Government is going to set standards, then there is certainly need for Federal support. It is patently unfair for the Federal Government to create national standards and then not help State and local governments meet those standards.

Thank you, sir.

[The prepared statement of Mr. Kaplan follows:]

PREPARED STATEMENT OF MARSHALL KAPLAN

Hard Choices - Responding to America's Infrastructure Problems

Policy by Fad:

Regrettably, the nation's domestic policies, particularly those related to economic development, community revitalization, jobs and growth, appear episodic and fadish. For example, the War in Poverty, an ostensible national commitment, turned into a whimper after two short years. Similarly, both the Model Cities program and the effort to mount a rational national energy policy, for all practicial purposes, died shortly after they were announced as national mandates. Last year, infrastructure was big at least in the media, this years its education.

Perhaps, competing domestic priorities, when combined with fiscal constraints and the absence of consensus as well as absolute wisdom condemns us to policy by idiosyncrasy. But, the nation deserves better. In light of the findings of the national infrastructure study, that I was privileged to direct for the Joint Economic Committee and the National Infrastrcuture Advisory Committee,[1] it must get better. Succinctly, our failure to develop a long term coherent infrastructure policy, in the past, has resulted in the rapid depreciation of valued national investments. More relevant, continued abscence of a coherent federal infrastructure policy will result in a significant reduction in the quality of American life and the productivity of American society.

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[1] The National Advisory Committee was appointed by the JEC. Its members include outstanding public and private sector leaders from throughout the nation.

Hard Choices:

As the title of the JEC study suggests, hard choices need to be faced by America. I believe we have the capacity, if not yet the national will, to address the growing infrastructure problem. Based on the study's findings, further delays will only increase the direct and indirect economic, social and environmental costs faced by the nation. Put another way, there's a large, but manageable, bill due. We should start to pay it now or we will have to pay much much more later. The infrastructure problem is resolveable, if we act with courage, wisdom and reasonable speed. This nation built one of the greatest networks of roads, sewer systems, and waterways in the world. It is certainly capable of maintaining and improving them. But if we are to proceed, priorities among competing needs will have to be determined in an equitable and efficient manner by all levels of government. As relevant, a unique sustained partnership between government and the private sector will have to be established immediately.

Toward a More Rational Infrastructure Approach:

Despite the publicity and the iterative attempts to estimate the size and the scope of the nation's infrastructure problem, no comprehensive attempt had been made to estimate national needs based on a "bottoms up" field study prior to the JEC/National Advisory Committee/University of Colorado effort. The analysis submitted to you reflects a threshold effort. It raises many methodological[1] problems that, until resolved, will impede a precise estimate of national infrastructure needs. Yet, it is the first study that provides a reasonable aggregate summary of national infrastructure conditions and needs thru the year 2000, based on a review of State and local government data. My colleagues in this effort -- 22 colleges and universities throughout the country - and the participating state governor's offices deserve your commendation.[2] They were pioneers in what hopefully will become continuous efforts to provide Congress with both a status report on the conditions of the nation's infrastructure, and a progress report on this nation's ability to maintain, revitalize and develop new infrastructure.

The Magnitude of the Problem:

Investment needs thru the year 2,000 for basic infrastructure will approximate $1,157 billion dollars. Available revenue likely will reach $714 billion dollars. The difference between revenue and needs equals $443 billion. As a rough order of magnitude, if the gap were annualized the increase in current infrastructure expenditures would total about $20 billion dollars a year. If the cost of closing the gap were shared equally, each citizen would have to contribute less than $200 per year.

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[1] Availability of solid state data is uneven. Standards measuring conditions vary among states. Relatively few states have developed rigorous procedures to define infrastructure needs and to evaluate as well as determine related revenues.

[2] I also would like to thank Ms. Debbie Matz, senior staff member and project director from the JEC. She provided invaluable assistance in helping me maintain liason with states, and in defining Congressional concerns.

Summary of Investments
Requires and Anticipated Revenues
for Basic Infrastructure
(In Billions of 1982 Dollars)

Functional Category	Investment Needs	Anticipated Revenues	Financing Gap
Highways and Bridges	$ 720.2	$455.3	$264.9
Other Transportation	177.8	89.7	88.1
Water Supply, Distribution and Treatment Systems	96.2	54.5	41.6
Wastewater Collection and Treatment Systems	162.9	113.6	49.3
Total (all functions)	**$1,157.1**	**$713.2**	**$443.9**

Regional Distribution:

Happily, from a public policy and consensus building perspective, the infrastructure problem is not limited to one region of the country. Succinctly, the problem is a national one. While their origin is different, all regions of the country face significant infrastructure problems. For example, in Oklahoma, water from the Oquallala Aquifer is being consumed for agriculture use faster than it can be replenished. In Maine, nearly two-thirds of the highway system requires immediate improvement, in Alabama, 53 per cent of the county-maintained bridges are in trouble; and in Oregon, only 14% of the population is served by facilities providing secondary wastewater treatment. And so on, and so forth.

The annual per capita gap between needs and available resources thru the turn of the century in the West will be $86; in the South, $82; in the North East, $123; in the Midwest, $176; and in the South Central $86. Interestingly, the regions appear to be moving toward coincidence re. estimates of needs/gaps. Put another way, the difference between and among regions appeared much larger in the recent past than it will be in the year 2000.

Total Projected Per Capital
Capital Requirements and Revenue for
Highways, Sewerage, Water and Other Transportation

Region	Needs[1]	Revenue	Shortfall
Northeast	$262	$139	$123
Midwest	351	175	176
South	245	163	82
South-Central	266	173	93
West	222	136	86

Needs and gap estimates for individual infrastructure categories reflect the diversity between regions and suggest some of the basic causes of each region's infrastructure dilemma. Clearly, economic and population growth in the West has driven and will continue to drive the need for proportionately large expenditures for water systems. Just as clearly, the patterns of intense development in the older areas of the nation has generated and will continue to generate relative large outlays for surface transportation and sewer treatment faciliites. Significantly, historical per-capita outlays in all regions will be dwarfed, if projected aggregate infrastructure needs are responded too. Put another way, estimated per capita need figures, thru the year 2000, exceed in every region recent per-capita outlays. The percent increase between estimated need and current expenditures in each region range from 24% to 204%.[1]

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[1] The table is based on simple averages. Weighting needs by population would result in per capita needs as follows: North East, $306; Midwest, $350, South, $182; South-Central, $243; and West, $205.

A Comparison of Historical Per Capita Outlays with Projected Per Capita Capital Needs' for Highways, Sewerage and Water Supply

Region	Average Annual (1979-1981) Real Per Capita Outlays	Projected Annual (1983-2000) Real Per Capita Needs	Percent Increase
Northeast	$106	$197	$ 86
Midwest	110	335	204
South	129	212	65
South-Central	138	264	91
West	156	194	24

If the past is prologue to the future, aggregate regional infrastructure development patterns will likely find newer growing areas of the nation straining to keep up the growth and many older areas fighting hard to respond to operational and maintenance priorities. The choices have been and will be difficult for all regions. In this context, opportunity costing decisions,thru the seventies, appear to have lead older troubled areas to postpone infrastructure investment. Conversely, they appear to have lead developing areas to skew their budgetary allocations to keep up with growth. Projected per capita outlays for infrastructure as well as the anticipated percent of available revenues for infrastructure varies considerably by states within each region. Anticipated per capita outlay differences between states in each region are often matched by visible differences within each state. In this context, some older urban areas of the West face infrastructure problems more similiar in kind to those of urban areas in the East than other areas within their own state. Similarly, often contiguous areas in many south states reflect vastly different infrastructure problems: some related to the absence of basic infrastructure; some to the presence of deteriorating infrastructure.

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[1] Exclusive of other transportation.

Recent Per Capita Outlays:

Per capita outlays among states in each region varied considerably between 1979-1981. From 1979-1982, standard deviations in each region ranged from 11 in the Northeast to 43 in the South. Actual average per capita outlays ranged from $94-118 in the Northeast; $96-$120 in the Midwest; $76-$208 in the South; $118-168 in South Central; and $86-$200 in the West.

While western and southern states generally have reflected larger per capita outlays for highways and water, and while Northeast states have illustrated the same for sewer outlays, states from each region have placed near the top and/or the bottom of per capita outlay rankings for most studied infrastructure categories.

Ranking (Highest to Lowest) of States According to Real Per Capita Capital Outlays, 1979 to 1981, by Functional Category

	Infrastructure Category			
Rank	**Highways**	**Water**	**Sewerage**	**Total**
1..	Kentucky	Colorado	Ohio	Kentucky
2.	Montana	Texas	New Jersey	Montana
3..	New Mexico	Oregon	New York	Colorado
4.	Washington	Tennessee	Maryland	Texas
5..	Texas	New Mexico	Massachusetts	New Mexico
6.	Louisiana	Florida	Oregon	Oregon
7..	Oregon	Maryland	Missouri	Washington
8.	Maryland	North Carolina	Florida	Maryland
9.	Tennessee	Maine	California	Florida
10.	Missouri	California	Texas	Tennessee
11.	Colorado	Oklahoma	Washington	Louisiana
12.	Florida	South Carolina	Colorado	Missouri
13.	Oklahoma	Washington	Indiana	New York
14.	Maine	Alabama	Oklahoma	Oklahoma
15.	Alabama	Massachusetts	Kentucky	Ohio
16.	Indiana	Montana	New Mexico	Maine
17.	New York	Kentucky	Maine	North Carolina
18.	North Caolina	Louisiana	Tennessee	New Jersey
19.	Ohio	Ohio	South Carolina	Alabama
20.	Massachusetts	Missouri	North Carolina	Indiana
21.	New Jersey	New York	Louisiana	Massachusetts
22.	California	New Jersey	Alabama	California
23.	South Carolina	Indiana	Montana	South Carolina

Functional Parameters
(Recent Past Highways)

During the 1970's, total capital spending for highways increased but at a slower pace than the cost of construction. Thus, expenditures in real dollars declined rather steeply.[1] Highways clearly dominate recent per capita outlays for basic infrastructure. While constituting a greater share of basic capital outlay in growing regions and states, they have reflected a disproportionately larger share of outlays in all areas of the country. For example, during the period 1979-1981, highway improvements were 56% of total capital outlays in the North East, and 70% in the South Central states.

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[1] The decline in highway expenditures reflects in part the near completion of the interstate system, and the sluggish growth of gasoline taxes.

Highways and Bridges

(Future)

Highways and bridges will continue to dominate basic infrastructure expenditures and needs. Our highway system - if you can call it a system - needs immediate and sustained attention. Over one half of the nation's two million miles of paved roads require early attention. Similarly, one third of the Interstate highway system appears in need of repair.[1]

Bridges are a particular problem. Nearly 45% are deficient and/or are obsolete. In 34 states, at least one third of the bridges require substantial improvement.

Over 700 billion dollars will be required to maintain a decent highway and bridge system thru the year 2000. Even with recent gas tax increases, the shortfall will be $265 billion.

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[1] The DOT estimates that without capital investment between 70-90% of the existing highway system would deteriorate to a poor condition within 15 years.

Highways and Bridges Investment Requirements, Projected Revenues, and Financing Gap 1983-2000

	Needs	Revenues	Gap
Case-Study States	$466.5	$294.9	$171.6
National Total (Extrapolated)	720.2	455.3	264.9

Water Supply and Distribution

Data concerning water supply and distribution needs was tougn to secure in almost every state. A good part of the reason relates to the variety of groups adminstering system services. For example, over 8,000 separate systems exist in Washington state. Massachusetts has 363 individual entities - some public, some private - providing water to its residents.[1]

Despite difficulties with the uneven quality of the data, we were able to define certain endemic state and local problems. Among them: inadequate sources of supply; overdrafting of aquifers, deterioration of supply and distribution systems, inadequate treatment facilities.

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[1] In addition to the number of providers, efforts to precisely estimate water needs are impeded by the: (a) difficulty in measuring repair and rehabilitation costs; (b) difficulty in forecasting demand and supply, given diverse approaches to pricing water.

Nearly $100 billion will likely be needed to accomodate the nation's water needs thru 2000. Available revenues will fall short of needs by approximately $40 billion.

Water Supply Distribution and Treatment
Estimated Needs and Revenues
1983-2000

	Investment Needs	Anticipated Revenues	Likely Gap
Case-Study States	$62.3	$35.3	$27.0
National Total (Extrapolated)	$96.2	$54.5	$41.6

Wastewater Collection & Treatment

America's wastewater collection and treatment capacity is at best uneven.[1] Many areas, particularly since passage of the Federal Water Pollution Control Act of 1972, reflect significant progress matching needs to investments. Conversely, other areas have just begun to respond to problems and face an uncertain future given fiscal constraints.

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[1] Many states relied in part on EPA data to estimate needs. Several states complained that EPA analyses do not record several key cost elements (e.g., new collection systems, storm sewers, repair and replacement of existing and new sanitary and storm water conveyances.)

$165 billion will be needed thru the year 2000 to respond to national state and local commitments. Anticipated revenues of over 100 billion will result in a shortfall of nearly 50 billion.

Policy Options - Closing the Gap

Close collaboration among all levels of government and between government and the private sector will be required to respond to America's infrastructure problems. States and local governments will be required to shoulder much of the planning, financing and development burden. But if visible progress is to be made, the federal government cannot abdicate assumption of significant responsibility. It has been and must remain a partner at the infrastructure table.

Past Rules/Future Options

Historically, the feds have played many and varied roles with respect to State and local infrastructure development.[1] Federal agencies, sometimes to the chagrin of state and local officials, have set standards for infrastructure development. They have provided financial assistance to support infrastructure projects. They, in some instance, have directly built and/or administered facilities. Finally, federal fiscal and monetary policies have influenced the ease with which states and local governments can borrow funds for infrastructure development in the tax exempt bond market.

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[1] The federal governments role has been justified on several grounds. Among them: promotion of interstate commerce; providing for national defense, providing jobs and strengthening the economy; correction of externalities/reimbursement of mandates; and protection of health and welfare.

Regrettably, federal efforts concerning infrastructure have been relatively unpredictable over the last decade.[1] Regulations have changed, sometimes without a clear rational. Financial support has varied over time and often has distorted local priorities. Economic and tax policies have limited access to the bond market, and in recent years, raised the cost of tax exempt financing.[2]

Federal infrastructure activities in 1990 will likely resemble those in existance today. Clearly, budgetary and political constraints combined with remaining bipartisan national commitments will generate evolutionary rather than revolutionary changes. In this context, Congress should create a much more coherent set of federal policy guidelines, if it expects state and local governments to manage needed investments in an efficient and equitable manner. According to the National Advisory Committee, these guidelines should reflect:

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[1] During the last decade, Federal capital investment grants ranged from about 23% of state/local investments to 43%. Grants in aid for capital investment purposes increased from $1.1 billion in 1957 to a peak of $22.5 billion in 1980. When inflation is taken into account, capital grant outlays peaked in 1978. They have decreased by roughly a quarter between 1978 and 1983.

[2] The federal government supports the development of infrastructure thru provisions of the tax code, particularly those related to the exemption of interest on state and local bonds from individual and corporate income tax. Because bond holders gain a tax advantage, state and local governments can borrow funds at rates substantially below those available in private capital markets. Recently, the interest rates between tax exempt and taxable bonds has narrowed. Put another way, state and local governments have found it more expensive to enter the tax exempt market. The reasons are complex. They related to several factors: (1) private purpose issues have crowded public purpose issues; (2) tax sheltered investment opportunities have expanded and marginal tax rates have been lowered, thus making tax exempt bonds less attractive; and (3) fiscal problems faced by some cities have negatively affected investor confidence in tax exempts.

(1) the inter-relationship between infrastructure development and the achievement of national economic objectives. Federal infrastructure assistance is appropriate if, and when, state or local governments lack the fiscal capacity to revitalize deteriorating infrastructure or cannot easily provide new infrastructure to accomodate growth. Without good roads to get workers to jobs, or goods to markets, costs will rise and productivity will suffer. Similarly, without adequate water supplies and without efficient sewer treatment facilities, economic growth will be impeded and jobs lost.

(2) the inter-relationship between federally set infrastructure standards and the infrastructure costs faced by state and local governments. Federal help concerning infrastructure development is appropriate when state and local governments face increased costs as a result of federally mandated infrastructure standards or regulations.

(3) the inter-relationship between infrastructure development or the absence thereof in one state and the quality of life in contigious states. Pollution and/or congestion, often do not respect state boundary lines. The benefits and/or costs associated with either providing or failing to provide needed infrastructure improvements cannot always be efficiently or equitably distributed among and between contiguous states. Federal infrastructure involvement is appropriate if it reduces the likelihood of significant negative impacts or increases the likelihood of significant positive impacts on broad geographic areas of the nation.

Recognition of the above three points combined with the study's explicit findings concerning national, regional, state and local government needs led to four basic Advisory Commitee and staff proposals. My collegeaues in this study, Congressman Reuss, Chairperson of the National Advisory Committee; Peter Goldmark, and Lee White, respective Vice Chairs; Governor Lamm, and Mayor Royer, key members of the Advisory Committee, will discuss them.

Representative **Mitchell**. Thank you, Mr. Kaplan.

Could you hold for just one moment.

[Discussion off the record.]

Representative **Hamilton**. Thank you. We are glad to have you all here.

Representative **Mitchell**. Mayor Royer, please proceed.

STATEMENT OF HON. CHARLES ROYER, MAYOR, CITY OF SEATTLE, WA

Mayor **Royer**. I should explain myself at the outset for having littered your hearing room.

We have a saying back in 1979 when Mt. St. Helen's, that magnificent piece of natural infrastructure, blew up. We used to say, "If you can't come to Washington State, don't worry about it; Washington State will eventually come to you."

So since all of you couldn't come to Seattle to take a look at one city's peculiar and unique infrastructure problems, I thought that I would bring some bits and pieces of Seattle to you.

This piece of bridge, Mr. Chairman [indicating], you may recognize. At risk of loss of life and limb, the chairman, in a burst of public spirit that you seldom see in the Congress, I don't think, came out and crawled around under our bridges.

And this [indicating] is one you drove over on your way out of town. It is eaten and infested by termites.

We have other examples on the table of what marine borers and something called the gribble do to our basically wooden pilings on our bridges and our seawalls, what our rain does to our structures without adequate care and replacement.

I want to focus, Mr. Chairman, on two issues—and I'll try not to be repetitive in terms of the other testimony.

First, the problems in Seattle, which are peculiar, perhaps, to the Northwest, but in magnitude and scope not unlike the problems faced in Los Angeles, faced in Maryland, faced across this country, as has been suggested, and tell you a little bit about what the local government is doing to respond to those kinds of problems.

Second, reinforce the need for stronger partnerships among the cities, States, the Federal Government, and the private sector. We're not loading this whole problem onto the Federal Government. There is consensus, agreement, among cities that the Federal Government cannot do it, but there is also some consensus across the country among local elected officials that the Federal Government needs to play a strong partnership role—not because that's a new idea, but because it has national interest, and it is just good public policy.

In Seattle what we did in the first instance was to simply inventory our problem, which is what many of the groups who are engaged in similar activities to the advisory committee's activities have done.

The National League of Cities has surveyed the country. We surveyed particular States, particular jurisdictions. We got a handle on the problem nationally in a practical way. It was not a scare tactic kind of inventory to come up with multi-trillion-dollar price tags. In fact, in the National League of Cities' survey it was found most of the infrastructure problems, if you just isolated them and listed them across the country, could be handled for something in the range of $5 million a shot.

Those are not big numbers. Even the gap of a $442 billion need is not a magnificent number by today's standards.

So the first thing we did was identify our most urgent needs. In Seattle that came out to about $200 million. That included repairs to streets and bridges and our nonutility systems. Fortunately, in the utility systems we have been able to issue revenue bonds backed by rates. We are starting to pinch there. Even though our rates have been low, they are starting to get high, and we wonder how much capacity there is to keep our utility systems in good strong shape.

These are the most urgent repairs in the city. And we went to the voter for a $100 million bond issue to try to address those needs. We had a 2-year-long study, working with our constituency, explaining our need, as you need to explain a bridge that you can't open, or a seawall that has been eaten by marine borers or broken down by a storm, and threatens to water the city from below, which is unique for our town.

But once we had narrowed that range of need and had made a decision to go to the voter, we also felt we needed to make commitments to maintain our system, to keep our system in good working order so that massive replacement and repair would not fall to our children.

An interesting fact, I believe, Mr. Chairman: Historically the city—and I believe this is true in most cities across the country—has paid most of the costs of infrastructure repair. In 1970 it was about 75 percent of the costs of what we would call infrastructure repair and replacement in our city. In 1983 that number is 71 percent. When the need for the investment has gone up, we still maintain about 71 percent of the burden. State revenues supporting our capital program have dropped from almost 20 percent to 6 percent in 13 years. Support from the Federal Government increased dramatically from about 3 percent back in 1970 and the late 1960's up to 31 percent in 1981, but that, too, in recent years, in 1982 and 1983, has dropped sharply, down to about 23 percent.

We have maintained our effort. Our partners, for whatever reasons, have diminished their efforts.

We put that bond issue on the ballot, Mr. Chairman, at a time when we were told that people would not raise their taxes. Fifty-six percent of our people voted for the bond issue. Unfortunately, in our State to pass a bond issue like that, 60 percent of the people need to vote in favor—a super majority. The idea is to protect us from unnecessary debt. This was necessary debt. Fifty-six percent of the people, which is usually a decision, said that it was a necessary debt, and they believed in it, and we'll go back to the voters again.

The point is, we still do not have enough. Even with a bond issue of $100 million we still cannot meet our most urgent needs.

The resources with which we work also make a point in terms of the Federal role. When you consider how our tax dollars are derived among each level of government, I think you get the point. Over 70 percent of our revenue is locally generated. The city collects only 7 cents of every tax dollar collected within the city. Seven cents stays in the city. The Federal Government receives approximately 60, the State a little more than 30.

With the lion's share of the resources going to Washington, DC, and to our State capitol, it is not surprising that virtually every task force or advisory committee looking at this problem has defined and recommended an integral role for the Federal Government. I believe that that role starts with the kind of inventory and setting of priorities which our other members have testified to: The capital budget, setting of national priorities around our infrastructure.

I concur, and I believe you would find concurrence across the country, not necessarily in specific detail because, as our chairman has said, we are not recommending the ultimate financing mechanism as an answer and the only answer, but almost everyone within the city organizations would concur that a new financing mechanism, one which is sensitive to the realities of the $200 billion deficit, be created, be discussed and refined and created over the next couple of years.

Finally, I do want to underscore the necessity of the Federal Government involving itself with the rule and regulations, the setting of quality standards, for the kinds of things we do.

As a very quick example in the nuclear industry, in Canada the Federal Government decided there would be one technology, and supported that technology, and regulation got used to that technology, and Canadian nuclear plants produce an uncommon amount of power safety.

In our country, the free market worked. Several different technologies were used, regulations built up, massive regulation chasing different and untried technology, and the result is chaos across the country in terms of the development of the nuclear power resource. That is a part of it. The Federal Government had a role to referee that effort.

We suggest that the Federal Government can referee what a free market is creating in terms of the cost of traffic signals, the standards that we must work with and spend precious few dollars on.

In conclusion, Mr. Chairman, while we need to use every possible avenue to raise our level of commitment to maintenance, to raise the resources available for infrastructure repair and replacement, we must also, as cities, ask the Federal Government to continue its role as a continuing partner and exert some leadership.

At the risk of raising something controversial—and it seems to be always controversial these days, or at least contentious, and I don't mean it that way—when you look at the needs that we are talking about, the amount of dollars the President has recommended for 1985 as an increase in the defense budget—that amount of dollars is roughly equal to the amount of dollars spent by levels of government in 1983 on infrastructure repair and replacement. That's the increase.

I'm not suggesting that this is an either/or proposition. When we built the freeway system, the interstate system, it was in the interests of national defense. I suggest that we ought to look at both of these defense budgets, the one that we call defense and the other one that we don't even write down—look at those both as a means of defending this country and, as Peter and others have suggested, bringing this country to a level of productivity that will enable us to be competitive in the world again, and safe on our streets again in our cities.

Thank you very much, Mr. Chairman, for the opportunity to testify and to serve on what I believe has been a real productive effort to help the Congress define and deal with this problem.

[The prepared statement of Mayor Royer follows:]

PREPARED STATEMENT OF HON. CHARLES ROYER

Mr. Chairman, thank you for the opportunity to speak today on the condition of the infrastructure in America's cities. I want to thank Congressman Hamilton and the other Members of this Committee for providing consistent leadership during the past three years --through a period when the word "infrastructure" rose from the depths of obscurity to the front pages of most national magazines, only to fall away again in recent months. Although the interest of the press may have turned elsewhere, the problems are still with us, and a sustained effort is still required. Congressman Hamilton has been steadfast in his effort to explain the relationship between the infrastructure and our economic stability. I trust this hearing will renew the momentum in Congress and spur the Administration to act now to meet this country's infrastructure crisis.

I will focus my remarks on two issues: the problems in Seattle and our local response to those problems; and the need for stronger partnerships among cities, states, the Federal Government, and the private sector aimed at achieving our common interest.

When Congressman Hamilton visited Seattle, as Chairman of the Joint Economic Committee's field hearing last August, we gave him an "infrastructuralist's" tour of the City. It is not a tour we give most tourists, but it is an important one. It is a look at the bones and ligaments of the City -- the parts that hold everything else in place. Since all the Committee Members couldn't come to Seattle, I brought some pieces of Seattle to you. These bits and pieces represent evidence of a large and growing problem.

What Are We Doing Locally to Address Our Infrastructure Problems?

Seattle's first step toward doing our part to address the problem was to identify our needs through the work of a Citizen's Task Force. During two years of work, the Task Force documented more than $200 million in urgent repairs -- repairs that should have been made yesterday -- to our roads, bridges, traffic signals, firestations, parks, and public buildings. The $200 million does not include capital repairs and improvements required by our countywide transit and sewer authority or by the Port of Seattle. Nor does it include improvements to our own capital plant that would make our existing systems work better or provide new services for a changing economic base. Two hundred million dollars represents only the most urgent repairs. If we included our utilities -- Sewer, Water, Light, Solid Waste -- our needs would be far greater. Fortunately, we have been able to issue revenue bonds backed by rates to keep our utility systems in reasonable condition. Needless to say, we did so at considerable pain to the ratepayers.

Once we had narrowed the range of need as much as possible, we were able to define three necessary actions: 1) reducing the $200 million backlog of uregent repair and replacement needs;

2) financing improvements to existing systems to increase efficiency and to meet new service demands; and, 3) establishing an ongoing program of preventive maintenance to prevent future generations from facing similar problems. The first and second actions require a large infusion of capital now and in the future. The third problem -- ongoing maintenance -- requires a commitment by elected officials at all levels of government, to dedicate funds to capital maintenance, repair, and replacement on an ongoing basis. All three of these tasks represent demands far greater than our current local revenue. We turned to local taxpayers with bond propositions, and to the federal and state governments for financial assistance.

Historically, the City has paid most of the costs, but we have acted in partnership with the State and Federal Government. Now, when the need is greatest, our partners are carrying less of the load. In 1983, 71 percent of our CIP was financed with local revenue. State revenue supporting our capital program has dropped from 19 percent to six percent since 1970. While support from the Federal Government increased from 2.9 percent in 1970 to 31 percent in 1981, it has fallen sharply since to 23 percent in 1983. As you can see, Seattle continues to pay the lion's share for capital renovation and capital improvement needs.

Last fall, we placed three bond issues totalling nearly $100 million on the ballot. Those bond issues won more than 56 percent support, falling just short of the necessary 60 percent voter approval. We will go back to the voters with another financing proposal, because there are simply no other alternatives. I am confident the voters will approve our bond proposals, but they will finance only a portion of what we need to catch up.

Since I was elected Mayor in 1977, we have gradually increased the amount of our local operating revenue devoted to maintenance; we have set aside funds in a reserve fund for major maintenance and capital replacement; and the percentage of our capital improvement program going into renovation and repair has increased. Nonetheless, we do not --and I daresay, most communities throughout this country do not -- have the resources to meet our needs without help. The recent National League of Cities study on infrastructure needs made this point very clearly.

In Seattle, the necessity of continued federal and state funding support is apparent, especially when you consider how our tax dollars are divided among each level of government. While over 70 percent is supported by locally generated revenue, the City collects only seven cents of every dollar of taxes collected within the City. The federal government receives approximately 60 cents, the State 30 cents.

What Can the Federal Government Do to Help Cities Address Their Infrastructure Problems?

With the lion's share of resources going to Washington, D.C., it is not surprising that virtually every task force or advisory board on the infrastructure crisis has recommended an integral role for the Federal Government. Most recently, the Labor-Management Group issued a report recommending a federal role that includes developing standards for infrastructure repair, funding research and development, and providing catch-up capital funding in areas of critical need. They also cited the need for a federal capital budget process that identifies capital, maintenance, and operating requirements, and clarifies the responsibilities of each level of government. The Joint Economic Committee Advisory Board on Infrastructure also recognizes the importance of the federal role in solving infrastructure problems.

To have a funding system that is rational and predictable, the Federal Government desperately needs a comprehensive national assessment of infrastructure needs and priorities. The coordination and development of a national inventory or national capital budget for basic infrastructure is critical. At the local level, we make a clear distinction between capital and operating budgets. This distinction allows us to evaluate our expenditure patterns, and our level of contribution to our capital plant. I urge the Federal Government to identify domestic capital needs and to create a process of rationally addressing those needs. The processes must not take place in the context of pork barrel politics.

I concur with the advisory committee's recommendation that the Congress create a new financing mechanism which would establish a long-term, predictable partnership among all levels of government. It is critically important for local officials to know what level of federal support will be available for infrastructure repair. We cannot make the most of our scarce local resources without some certainty about state and federal intentions.

Whether a new financing mechanism is created or not, it is clear to me that additional federal assistance is necessary. If it is not possible to create a new mechanism such as an infrastructure bank, then Congress should reconsider a major federal public works bill. While not perfect, federal public works programs have often been enormously successful in the past. These programs, in part, built many of the facilities we are trying to preserve through the repairs we are discussing today. Local and state governments, if given the proper flexibility, can implement a federal public works program that would at least begin to reduce this massive backlog of deteriorated facilities.

A third initiative to address the infrastructure problem could be coupled with a federal effort to provide jobs by giving the cities additional manpower to perform routine preventive maintenance and minor repairs. Many of these tasks can be performed by lower skilled and lower salaried workers, those very workers who are continuing to have problems finding work. If local government can use our existing job classifications, and if the federal legislation can be sensitive to local wage scales, such a program could be implemented quickly and effectively. It would help local government prevent further deterioration of our physical plant, and employ many of those who are most vulnerable in this economy.

Finally, the advisory board concluded that the Federal Government should initiate a comprehensive study of federal standards which govern the construction of basic infrastructure. We are constantly confronted with expensive solutions to problems. Expensive bridge railings and signal systems reduce the number of projects we can accomplish with our local, state, and federal resources. We need to clearly understand the costs of those standards and their benefits, and make certain we are using the standards that will give us the quality we seek at the lowest possible cost.

In conclusion, Mr. Chairman, the cities are confronted with failing seawalls, rotten bridge timbers, leaky roofs, and broken water and sewer mains, and a host of other problems that have been accumulating for many years. We are trying to address these problems with our limited local resources, but they are insufficient, even to address our most urgent problems. While we will continue to use every possible avenue to raise revenue and to increase our expenditures for capital repair and maintenance, we must also ask the Federal Government to continue its role as a contributing partner and exert leadership along the lines I have discussed today. There will be many who suggest the nation cannot afford to make these repairs. I suggest that the nation cannot afford the cost of delay. As this Committee has pointed out many times, the decline of our nation's infrastructure is a very direct threat to our economic system and our quality of life. I would also point out that there are adequate funds to accomplish what Congress believes to be essential. It might interest the Committee that the amount the Presdient has recommended for 1985 as an increase in the Pentagon's budget far exceeds the amount spent for all infrastructure investments by all levels of government combined in 1983. Perhaps the Congress might compare these two items to see which expenditures hold the most promise for improving our safety and security.

The work of the Joint Economic Committee on this issue is extremely important. I urge you to build on this interest with legislation that will assist state and local governments in our battle to restore our infrastructure to good condition as part of building a strong national economy for the future.

Representative **Mitchell.** Thank you.

Mr. **Reuss.** Mr. Chairman, Governor Lamm of Colorado, I am told, is on his way, but it may be the subcommittee would wish to proceed with questioning the members of the panel until he arrives.

Representative **Mitchell.** I have been advised that he is in the building, but I think in the interest of time we ought to proceed with questions.

First of all, I'll ask Congressman Hamilton if he has any statement to make at this time.

Representative **Hamilton.** Thank you very much, Congressman Mitchell.

I want, first of all, to express my appreciation to you for presiding over the hearing to this point. The gentlemen before us are very familiar with the Congress and will not need to hear an explanation about three committee meetings going on right now that I ought to be at, including this one. You are very familiar with that process here, and I apologize for being late.

I do want to express a word of special appreciation to former JEC Chairman Henry Reuss, who headed our advisory committee, for the work that he and all of the members of that committee have done. I suppose you are rather unaccustomed to being on that side of the table, Mr. Reuss, but we are delighted to see you back on Capitol Hill.

And let me say, not only with regard to the Joint Economic Committee, but many other matters as well, I and other members of this institution have found ourselves thinking that it would be nice to have Henry Reuss back with us, because of your superb record in this Congress, as Congressman and as the leader of the Joint Economic Committee.

Marshall Kaplan has done a superb job as staff director, and we are most appreciative of the work he did. It is really outstanding.

I might also mention he had some good help from the Joint Economic Committee staff, Debbie Matz and others who were extremely helpful to this group.

Mayor Royer, I was sitting here while you commented about that bond issue. It did not pass in Seattle, did it? You lost it because you didn't get 60 percent?

Mayor **Royer.** We got 56 percent, Mr. Chairman. You need 60 under our law.

Representative **Hamilton.** So what happens to those bridges now?

Mayor **Royer.** I bring them back to Washington piece by piece [indicating]. [Laughter.]

Representative **Hamilton.** I think that's an illustration of the kind of problem you run into with constitutional restrictions on infrastructure improvements.

So, Mr. Chairman, those are my opening comments.

I have a question or two, but I should defer to you, if you like, to begin the questions.

Representative **Mitchell.** Yes; thank you very much. I do have one or two questions.

One or two observations first: Mr. White, and all the members of the panel, I am a totally devoted supporter of industrial revenue bonds. I know what they have done in my city and my State, and obviously I hope Congress in its wisdom and sagacity will make up for the mistake it made in December in not acting on that issue.

Mayor Royer, an observation for you. I happened to look at some figures on military spending in constant dollars. If the policies are continued until 1989, we will be spending in constant dollars $331 billion annually, which is above what we spent in 1969 at the height of the Vietnam war, which was only $250 billion.

I wanted, on the record, to at least let you know where I stand on those two issues.

The report is excellent. I have just one or two questions.

You have suggested that it would ease our regional problems and our national problems, and I concur. However, in my limited experience in the Congress, I find we always have grave difficulty in finding out who gets what share of the pie, at what cost. And as I read the report I do not believe you addressed the issue of any formula for allocation.

Is that correct?

Mr. KAPLAN. That is correct, sir.

Representative MITCHELL. Was that because you thought the Congress could do a better job? [Laughter.]

Mr. KAPLAN. We worked with all of the regional organizations—WGA, CONEG, the Southern Growth Policy Board. We agreed that once we secured general acceptance on principles among the advisory board, we would work on formulae.

One of our next steps will be to begin to look at fund distribution. But we wanted to gain consensus first on the need, and consensus on the tool and the mechanism.

I am convinced, having worked in the past, as you know, on various formulae, that we can find a consensus formula.

Representative MITCHELL. To be quite candid, I would much prefer for you to recommend a formula rather than leaving it in the hands of the Congress, obviously, because of the enormous political pressures which would be exerted.

Again, no study can cover everything, but I don't think I saw any specific reference to the job creativity in this recommendation. I would assume it would have enormous implications for employment opportunities which are desperately needed when we now have some 9 million Americans out of work, with little opportunity for work in the near future.

Am I right in assuming that you did not address that issue?

Mr. KAPLAN. We didn't justify the Federal role only on economics and the jobs. We did not attempt to do a multiplier on $1 of expenditures. But from previous studies, infrastructure does rate high on job creation. You are right, sir.

Representative MITCHELL. I think it would be fascinating if we could make that translation from dollars to jobs. Unemployment is still one of the most pressing and critical issues that we can find.

Mayor ROYER. Congressman Mitchell, I'll be happy to submit to you the formula and objectives for employment of our issue, which would not be too far away from that.

Representative MITCHELL. Thank you.

Mayor ROYER. And it is significant because a lot of the projects are small.

Representative MITCHELL. I think that would be most helpful to the members of the committee.

[The following information was subsequently supplied for the record:]

EMPLOYMENT IMPACTS OF SEATTLE'S PROPOSED CAPITAL PRESERVATION AND IMPROVEMENT BOND ISSUE

Introduction

The purpose of this paper is to analyze of the employment impacts of the project spending that would occur as a result of the proposed 1983 Capital Preservation and Improvement Bond Issue. The bond proceeds would fund major maintainance and renovation of City facilities, parks, and streets as well as a number of other City capital projects.

Spending on the projects is currently projected to last five years, from 1984 to 1988. The focus of this paper is on the extent to which project spending would support employment in the local economy through direct employment on the projects, indirect employment due to purchases of materials and services used in the projects, and "induced" employment due to spending created by the direct and indirect employment.

Summary Findings

o Bond sales and project spending would, however, result in a "import" of employment from other areas of the country. Approximately 2900 jobs would result in the State of Washington would result from project spending over the next five years, including indirect and induced employment. Most of this employment, probably over 90%, would be in the King, Snohomish, Kitsap, Pierce four-county area.

  It is difficult to argue, however, that additional jobs will be "created" in the overall economy as a result of the bond issue. The increased imployment in Seattle will, to an undetermined extent, divert capital from national credit markets to Seattle, simply transferring investment related employment from other parts of the country to the Seattle area rather than creating new jobs.

o The increase in jobs in the greater Seattle area during the next five years would be partially offset by jobs lost due to increased property tax payments. After the completion of bond issue project spending, the local economy would experience a loss of jobs to other areas of the country due to the continuing drain of tax dollars to pay bond interest. The net employment impact of the bond issue on the local economy will thus be an increase in employment over the next five years. That increase will to some extent have been "borrowed" from employment over the remaining fifteen years of bond issue redemption.

o There are differences in the relative employment impacts of different project types. In particular, replacement of concrete panels in streets and particular parks projects appear to generate the most jobs in the local economy.

Background

The City's Capital Preservation and Improvement Committee has recommended submission of $100 million bond issue to fund the correction of deficiencies in the the City's parks, facilities, and transportation system. The funding would be through general obligation bonds to be presented to the voters in the fall of 1983. There would be a wide range of projects undertaken, including building renovations, seawall construction, arterial street resurfacing and concrete panel replacement, bridge repair, traffic light replacement, and street light pole replacement and upgrading. Because of the current high rate of unemployment in the Seattle area, some interest has been expressed in the impact the bond issue spending would have on the local economy.

Economic analysis of employment impacts of public works spending generally differentiates between three types of employment: direct employment, associated with particular projects including both on-site workers and off-site workers whose work is directly associated with the project; indirect employment, attributable to project spending on materials and services used directly on the project; and induced employment, caused by the respending by recipients of project funds. Estimates of employment in this report include all three categories.

Local employment impact

The immediate impact of bond issue revenues and subsequent project spending, if we assume that local investors account for a very small part of the national credit markets from which the funds will be drawn, will be the "creation" of local employment, to some degree at the expense of other areas of the national economy. In order to make estimates of these employment impacts in the State of Washington, the following methodology was used:

Bond issue project cost estimates were converted to 1983 dollars.

Rough estimates were made, for each type of project, of administration, management, and design costs, on the one hand, and actual construction costs on the other.

Employment multipliers, from the 1972 Washington Input-Output Study were adjusted to 1983 price levels using appropriate implicit price deflators.

Spending in each project type was converted to estimates of employment.

The results of the calculations are shown in the table on page 4. The calculations result in an estimate of 2900 jobs supported in the Washington economy as a result of projected bond issue spending. Note that the jobs estimates are in terms of employment-years rather that persons employed. For example, one employment-year could translate into two persons being employed, each for six months, or three persons, each for four months, and so on. No reliable method of estimating the impact on the City of Seattle is available. A "ball park" estimate of the Seattle employment can be made by assuming that most of the State employment, perhaps 90 to 95 percent, is in the Puget Sound area (King, Snohomish, Kitsap, and Pierce Counties).

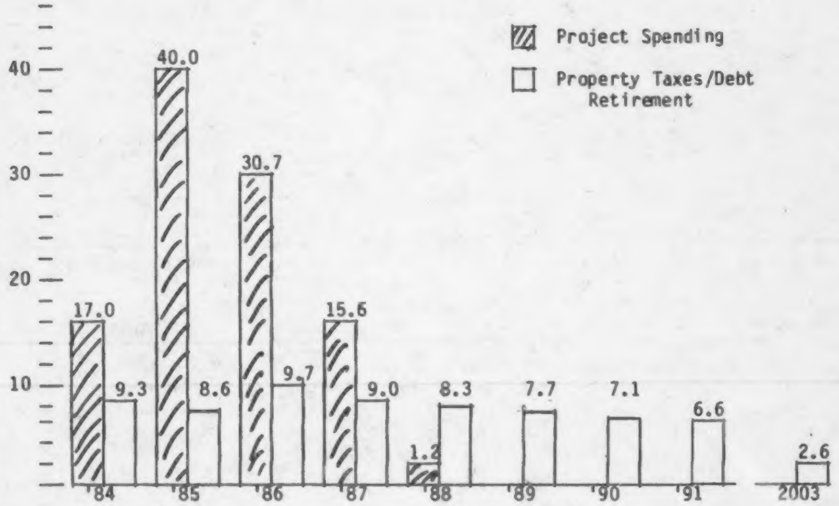
Note that these estimates do not include increased employment from increased tourist business related to improvements in Seattle Center, the museums, or the City's parks, or increased employment related to decreased transportation costs of City businesses.

Employment Impacts of Increased Property Taxes

While spending on bond issue projects will generate local employment, the increase in property taxes to pay off the bonds will have the reverse effect. Increased taxes payed by Seattle businesses and households will result in funds leaving the local economy to make interest payments to bond holders most of whom are presumably outside the Seattle area. The withdrawl of funds will, over the twenty year life of the bonds, represents an "export" of employment to other areas of the country in the same way that borrowing from national credit markets to spend locally "imports" jobs.

Estimates of job losses due to bond redemption taxation are beyond the scope of this paper. It cannot be assumed that the impacts are the same, i.e., that the same number of jobs will lost from a thousand dollars of increased property taxes as would be gained by a thousand dollars in bond project spending. It is clear, however, that the negative employment impact of property taxes is substantial and could even be greater, on a dollar for dollar basis, than the bond related spending impact.

In order to have some notion of both the timing and magnitude of the offsetting impacts, bond issue spending and bond redemption taxes are shown in the chart below, Both the spending and the taxes are shown in 1983 dollars since the employment impacts of both will diminish with inflation. The chart assumes an annual inflation of 8 percent, and for the sake of simplicity, assumes a single bond sale at the beginning of 1984.



Impacts of Different Project Types

The job estimate methodology explained on page 3 uses an average number of jobs generated per thousand dollars of construction spending. There are, however, some differences in job generating impacts of different types of construction activities. The differences in impacts on the lcoal economy are due to a variety of factors. In general, more jobs will be supported in the local econlmy with: 1) a high proportion of total project funds spent on design, management, construction inspection, etc., versus actual construction contracts (see table, page 4); 2) a high proportion of construction contract funds spent on wages versus equipment and materials; and 3) a high proportion of project equipment and materials produced in the local economy.

The table below shows rough estimates of these factors for bond issue project categories. The proportions of contract amounts going for on-site wages and salaries is based on a "typical" City project in each category; the design/management/inspection costs are based on City department staff estimates; and the information on location of materials purchases is based on informal conversations with City department staff and on estimates from the 1972 Washington Input-Output Study.

	proportion of total project costs going to design/ management/ inspection costs	proportion of total construction contract funds going to on-site labor	location of purchase/ production of materials/ equipment purchase
facilities maintainance and repair	low	high	mixed
arterial street resurfacing	low	medium	predominantly local
arterial street concrete panel replacement	high	medium	predominantly local
general park repair/ maintainance projects	medium	low to high	predominantly local
traffic control devices	medium	medium	outside local area

The analysis presents a mixed picture of project impacts. Replacement of concrete street panels appears to have the highest employment impact due to local materials purchase and high labor demands, both on-site and for design and inspection. Some parks projects would have similarly high impacts. Instalation of traffic control devices, with a high liklihood of equipment manufacture outside the local economy, would have an overall low employment impact.

Representative **Mitchell.** And now let me play Scrooge. Of course this is needed. We can't let our infrastructure collapse. Yet it is an enormously expensive project.

I frankly don't think that we are going to see any significant decrease in interest rates over the next 2 or 3 years. I think they will remain constant this year—not that the Fed is a political entity, but it is an election year. And we may well be talking about an 11-percent interest rate. An 11-percent interest rate on $1 billion—you might be talking about interest rates in the billions over time, just the interest.

Why was the idea of a grant program apparently just rejected, in terms of cost, rather than a loan program?

Mr. **Goldmark.** Let me try to share our thinking on that with you, Congressman.

First of all, I think all the members of the advisory committee would want us to make clear to you that this program we have suggested here today is in addition to the existing grant programs. We fully expect the advocates and the communities who believe in those grant programs will be urging them on Congress, and in some cases their expansion.

One of the things we believe, and Representative Reuss put it very well, is the need in this country to begin to count in a capital way those things that are capital, and to begin to have a vehicle which can be sustained and predictable over time. It also is our belief that over the long haul to begin to construct a capital budget, to begin to pay for investments through formal loans is probably a step forward. We also suspect that in the immediate future it may be more practical and politically possible to start with a small loan program than a small or a large new grant program.

All the States and cities which are going to generate most of that $700 billion that is going to be invested anyway between now and the year 2000 are going to be doing it through borrowings and loans and a true capital program. We feel in this respect it would behoove the Federal Government to fall into that framework, which it has never done.

That, I guess, by and large is our thinking. It's not the only way it could be done. We think over the long haul it has many advantages.

It is true that the borrowing power of the Federal Government is not now harnessed in any way to this problem. The United States is, after all, the most powerful and creditworthy borrower in the world. We have one of the largest capital problems in the world, and we have not connected that problem and that force.

Representative **Mitchell.** Do you have any other comments on that question?

[No response.]

Representative **Mitchell.** If not, Congressman Hawkins.

Representative **Hawkins.** May I join in saying to you, Mr. Reuss, I certainly concur in all the fine things that have been said about you, having worked with you for a long time.

Also, I would like to welcome Mr. Kaplan from the earlier days of my past.

I think the report has done a great job in calling attention to the need.

Now, having said that, I seem to have some problems with how practical is the idea. I think that it can be granted that the needs are very great, but I'm wondering how distinct are these needs from the other needs, and in what way are we going to place priorities on needs.

In another committee of mine we recently discussed the question of the needs in education, for example. Even the physical structures have been identified—needs for actual construction have been identified as exceeding $40 billion at this current time.

You have that need. You have the need in health facilities, the continuing need defense would seem to be building up rather than diminishing. We go from one crisis to another. We are over in Iran now, and heaven knows what area of the world we will be in next.

So we can identify needs in industry, education, housing, health—all these various needs. And they are all competing. I am wondering to what extent, then, will we be able to recognize these as distinct needs, how will we say that we will meet them when they seem to be growing and the assistance available to meet them seems to be diminishing.

I am wondering, therefore, whether or not we need to look at not only tax-exempt bonds as a means of doing it, or do we need to look at many other sources of assistance. I would assume that most of it is due to the fact that the economy is not healthy, and in a sick economy you just don't take care of needs, regardless of whether they are infrastructure or what they are.

And the fact is the revenues have fallen off since 1981, Mayor Royer, so I assume that this is true at the local level and the State level as well as at the Federal level. So we have to get those revenues up.

My question, I guess, is how to make the idea—which I think is an excellent one, an innovative one—creative by finding the sources, in competition without demanding needs that are being placed on us to fill, to do the thing that we have got to do eventually. Otherwise it will fall of its own weight—not only the bridges, but I'm afraid the economy will fall, particularly with the 1980's recession.

Mr. **Reuss**. I think, Mr. Hawkins, the distinctive thing about what we call infrastructure is that it is infrastructure. It underlies and undergirds the whole body politic.

I think the members of this panel share your feeling of the desperate need in this country for better solutions to the problems of health and welfare, and shelter for the homeless, and education, and the cultural things of life.

All of those, however, depend on a healthy economy. And a healthy economy depends not just on sensible tax and monetary and spending policies, but on the efficacy of our basic infrastructure. Clean water is not just a delight for the drinker; it's an essential for industry. Highways are not just a form of recreation for the family that wants to take a spin on a Sunday. They're the ways of getting workers to work and goods to market.

So that we can't I suggest, do the humane things in education and welfare and health and culture and recreation that we so desperately need to do in this country unless we have an underpinning of workable sewer systems and waterworks and roads and bridges and transit systems.

That, I think, is the reason why this panel and our report suggest that no matter what else is done, we have to repair an America in ruins.

Mr. **Goldmark**. May I add one thought to that, Mr. Hawkins?

We knew this was not easy, and that is why our report to you was called "Hard Choices."

There is another way to look at this problem. Unlike some of these other choices, we will pay this amount of money. There is no question about whether we'll pay it. The money to repair the Mianus Bridge that collapsed has been paid. I had exactly the conversation in response to the question you're asking with a Republican Governor who could not be with us today. He said, how do you justify paying this money in competition with other things?

One of the things I told him was, Governor, your State is going to pay to fix those bridges and repair those roads. But the questions are when, and how, and will it be done on a prudent and sound basis that can be fiscally sustained and makes the economy productive, or will it be done at a later time, on a piecemeal basis in a way that makes our economy nonproductive?

We are going to spend this money anyway.

Mr. **Kaplan**. Let me add to that a personel perception. It gets back to what Peter suggested, and the title of our report, "Hard Choices."

At the present time, there are $200 billion of tax expenditures in our tax system. If we had the courage and the conviction to review those tax expenditures and close down some of the loopholes, we could make more resources available than are now available to meet threshhold needs.

Representative **Hawkins**. Well, do you believe that it's going to be necessary to increase tax revenues and to do some of the other things as a means of financing these infrastructures? Do you think there can be this magnitude of financing completely out of tax-exempt bonds when you have many other bonds competing in the open market at the present time?

Mr. **Goldmark**. We did not presume in this study to answer questions the whole country is wrestling with about how you finance the deficit or how you deal with the competition in the bond market.

One of the reasons we recommended a capital budget was so that issues like these could be debated and so that the issue of what our capital needs are and how much this country and Congress wanted to devote to them versus other needs could be specifically illuminated, and voted upon.

We didn't come here today to say you should spend more on roads, less on education, less on medical care. We came to you with a structure and a process and a way of focusing this country's attention on this need that we think will allow it to compete fairly, and will allow the Congress, in its wisdom, to decide, on a regular basis, what that relative allocation should be. When that hard choice comes, we have no more wisdom than you do.

Representative **Hawkins**. Well, I would certainly urge you to get into the question that Congressman Mitchell raised about some priorities, some allocation formula for the money, which I think is the sticking point in the idea.

Each State obviously has a tremendous amount of needs. I see that mine happens to rank second. And then, within the State, you have competing interests. The question of whether or not that bridge in New York is more necessary to be repaired than the one in Seattle, WA, arises, and just who will be able to take advantage of the fund. Unless there is some formula, some priority system set up, I suspect it is going to become very political in nature, which I'm sure you don't want.

So I would certainly suggest that additional thought be given about this idea, so that there will be some allocation of funds that will not cause one area, one region, to be competing with the other. Otherwise, I think it will just be another political football.

Mr. **Kaplan**. Here again, sir, we did reach consensus on the concept, and we did agree that the staffs of the respective Governors' organizations would now sit with us and, through the advisory board and the Congress, work out the structure of the NIF. These issues had to be resolved after the conceptual agreement was achieved.

Representative **Hawkins**. Thank you, Mr. Kaplan.

Thank you, Mr. Chairman.

Representative **Hamilton** [presiding]. I'm pleased to see that Governor Lamm has joined us now, and I think we will interrupt the questions at the moment to hear your statement. Your statement, of course, will be entered into the record in full.

STATEMENT OF HON. RICHARD D. LAMM, GOVERNOR OF THE STATE OF COLORADO

Governor **Lamm**. Mr. Chairman, I apologize for being late, and I really don't want to interrupt the flow of questions. I would really like to submit my testimony, and I am sure that by questions we can mutually explore the problem and it will be more beneficial.

The Governors' Association agrees on the magnitude of the problem. All areas of the country have the problem. They may differ. In one area it may be problems of decay, and in another area it is problems of rapid growth. And I think we very clearly feel that all parts of the country have infrastructure problems.

We further feel that the States' economic positions—I would point out that we have recently found that in the last 2 years 44 States have raised taxes, and 43 States have significantly cut their budgets, which brings me, I suspect, to a matter that's on your mind, and that is it is important for you to understand that the Governors recognize past inconsistencies of position, calling for more fiscal responsibility on the part of Congress, and asking them for more State programs.

There is a significant new restraint on the part of Governors reflected in our policy, and we just recently passed, under the leadership of Governor Thompson of Illinois and Governor Carlin of Kansas, on a bipartisan basis, a fiscal resolution, backed in great detail, recognizing this horrendous problem that you people do deal with back here.

I get staggered sometimes when I look at the unfunded costs of the future, and this is certainly one of them—the unfunded costs of Social Security and civil service pensions and medicare. I think as a society here we are adding up a large number of unfunded costs, of which infrastructure is only a part. It is going to have to be taken out of capital of the future and operating expenses of the future.

That having been said, we did adopt a policy position consistent with the work of the advisory committee. And I would say of all the hard choices that we all face as public officials, and of all of the agonizing choices that we have to make, I do think the Governors really feel that infrastructure problems aren't a matter of if, but a matter of when. They can be deferred, but they can't be eliminated because these costs are going to come back to haunt us at some time or another.

So if you will again accept my apologies for being late, I would really much prefer to respond to questions than to go through my testimony which I have submitted to you. I am just here to reaffirm what other panelists have said.

[The prepared statement of Governor Lamm follows:]

PREPARED STATEMENT OF HON. RICHARD D. LAMM

Mr. Chairman and Members of the Committee:

A long-term program of infrastructure investment which balances the needs of growing and mature regions is required to support strong economic growth, to meet environmental goals, and to guarantee the health and safety of persons who rely on public facilities.

The public and private sectors must seize the opportunities they have now to define capital strategies that will provide economic, environmental, and fiscal benefits long into the future.

In my testimony today, I would like to offer some thoughts on the infrastructure issue when viewed from a national perspective, to report to you on action taken by the National Governors' Association at the meeting we have just concluded, to give you specifics on the challenge we face in Colorado, and to suggest some areas where Congress and the states could work in the near term.

NATIONAL OVERVIEW

The following are the points that I think are important to keep in mind as we design a national infrastructure program.

The funding gap between revenues currrently earmarked for capital investment and the needs is staggering -- $450 billion over 17 years, according to the study of the National Infrastructure Advisory Committee. In Colorado alone, the gap through the year 2000 approaches $4 billion. It will be difficult to close this gap given shifting federal policy, a growing federal deficit and its impact on the bond market, and competing state needs and state fiscal constraints. We will need assistance from the federal government.

While the Advisory Committee recommendation that state and local governments should assume primary responsibility for infrastructure management, financing, and development is consistent with NGA principles, taking over the financing responsibility is not fully consistent with state means.

We all agree, I believe, that future infrastructure programs depend on a joint financing effort between government and the private sector. But states, while they can and are raising new funds for infrastructure investment, are not in the position to commit to massive new financial responsibilities. The fact that most states are not facing deficits reflects in part the operation of the spending and tax limitations about which the Advisory Committee expresses concern. It does not mean that states are free from the fiscal pressures affecting the federal government. We simply have lived with these pressures from year-to-year and have adjusted our spending and tax policies to respond to them.

In fact, the fiscal condition of states in 1983 was the worst in recent memory. The national recession wreaked havoc on state after state in the early months of 1983, requiring them to enact tax increases and spending cuts. Now that the nation's economy is improving, the recovery is affecting states unevenly and slowly. Although some states are expecting temporary surpluses, most state finances are still highly constrained. In 1982 and 1983, 44 states raised taxes and 43 states initiated cost-cutting measures. Even with these tax increases, 1983 budgets are below 1981 spending levels in constant terms. Funds available to the states in future years must be used to meet pressing obligations deferred by states because of the recession — including infrastructure repair, education, environmental protection, income security, and other important initiatives funded with state revenues. Although we fully intend to continue to play a lead role in the planning and financing of infrastructure, I must emphasize that states are not in a position to pick up new fiscal responsibilities from the federal government.

Congress will have to make some very hard choices. State and local infrastructure investment has declined as a percent of GNP over the last two decades, and the anticipated gap between revenues and infrastructure needs has increased. Improving our infrastructure is a challenge which is in our power to meet, but only if we bite the bullet. Because we cannot afford to increase the deficit, even to provide funding for this critical area, growth in other domestic expenditures may have to be slowed, taxes may have to be increased, and tax loopholes may have to be closed.

From a policy standpoint, all regions of the country have significant problems. Put another way, there is as much variation within regions as there is between regions. Thus, development of a national infrastructure policy need not get caught up in an East/West, Frostbelt/Sunbelt war. For example, older central cities in Washington (Seattle) and Colorado (Denver) have infrastructures that look more like eastern cities than newly contiguous areas. On the other hand, the West has problems not shared by other parts of the country, such as extreme diversity of geography and the costly demands of rapid growth.

Colorado's varied infrastructure problems reflect the diversity of its geography and economy. The needs of the Western Slope relate to energy boom/bust cycles; the Eastern Slope concerns center around agriculture; and the Front Range has problems related to rapid growth.

The complexity of the issue suggests that we must be "statespersons" as we work to develop solutions to it.

Both federal and state governments must put their infrastructure house in order. It is puzzling to me why very few states have refined capital budgeting and planning procedures. It is also puzzling why solid data on infrastructure remains uneven at best and nonexistent at worst.

We must begin to think of capital investment as a true investment, not as expenditures that do not have a pay-off. We must be wise enough to recognize the long-term benefits -- both for our economy and our quality of life -- of investing in our infrastructure.

The unpredictability of federal policy poses a real problem for states. This unpredictability limits our ability to develop efficient investment strategies. Standards, regulations, and assistance programs in this area have all changed rapidly. Moreover, the federal deficit and proposed policy changes threatens the reliability of the tax exempt bond market as a principal infrastructure tool for states and local governments.

NGA POLICY ADOPTED AT THE WINTER MEETING

Infrastructure was one of the key items on the agenda of the National Governors' Association winter meeting, which adjourned yesterday. Under the leadership of Governor Jim Thompson of Illinois (our current chairman), and Governor John Carlin of Kansas (our incoming chairman), we adopted a policy position highly consistent with the work of the Advisory Committee. We plan future action that also complements the Committee's work. I am submitting a copy of the NGA policy statement for the record of your hearings and would like to take a few minutes to highlight its major provisions.

The key points of the policy are that: 1) federal, state, and local governments and the private sector must work together if we are to continue to make progress in meeting the infrastructure funding gap; and 2) progress in the infrastructure area must remain a top national priority.

Many of the Advisory Committee recommendations are incorporated in the NGA policy. For example:

New Federal Capitalization Mechanism: We support the creation of a National Infrastructure Fund that encourages accelerated capital spending, permits states flexibility to set priorities, and enhances the state coordinating role for infrastructure spending. The Advisory Committee caveat that the Fund supplement (not supplant) existing programs is very important. Moreover, as the Joint Economic Committee study shows, state and regional needs are so variable that it is important to keep federal requirements to an absolute minimum so that states can direct the funds to the highest priorities they identify.

One of the most difficult issues faced by the drafters of the NGA policy was how to reconcile the documented need for increased federal infrastructure funding with the budget policy that we adopted last year and updated this week. After much thought and debate, we decided that we would call for limited funding increases now and a more substantial new commitment as soon as the federal deficit situation permits. However, our budget policy indicates that, to the extent increases are made in non-defense discretionary federal spending, they should be made in the investment components, including grants for infrastructure.

We took this course based on cost estimates for a new federal loan program; the Congressional Budget Office estimates that $10 billion borrowed in FY 1984 would add $400 million to the deficit in interest costs in that year and $7.3 billion over the period between FY 1984 and FY 1989.

Needs Assessments and Capital Budgeting: Our policy supports improved needs assessment and analysis of federal infrastructure programs. It also calls for strengthening the use of capital planning and priority-setting at the state and local levels. Because states are at the hub of the flow of infrastructure resources from governments at all levels and from the private sector, we strongly urge that future federal infrastructure studies be done on a state-by-state basis, as the Committee's study was.

As a follow-up to our policy work, we plan to convene a group of state experts to review the methodological problems in existing needs-assessments and to develop guidelines for state officials to use as they design their studies. We hope this project will lead to sounder and more uniform estimates; we invite you to join us in the effort.

Study of Federal Standards: The NGA policy supports a re-examination of design standards to ensure that they match capital needs and financial means. I believe that these standards have been oriented to producers and industry, not the consumer. Do we need as much pavement? Do we need as many sidewalks? Of course, any changes will have to be carefully developed to ensure that public safety is fully protected.

Development of More Flexible Grant Programs: The goal of increased flexibility in federal programs is a long-time objective of NGA, and it is reiterated in the infrastructure policy we just adopted. This area is one of those on which we will focus in our follow-up activity and hope to work with you on it.

Building State and Local Capacity: Our policy urges leaders at all levels of government to seize the opportunity they have to define capital strategies now that will have long-lasting benefits. We recognize that states have a central role in responding to this challenge because of their own sizeable infrastructure initiatives and because of their capacity to serve as fiscal coordinators. For this reason, our policy highlights increased state capacity in capital planning, funding, and management areas. Moreover, we are determined to carry our work beyond the policy process to the action stage, as I have noted.

THE SITUATION IN COLORADO

Colorado's infrastructure needs are in a sense unique; while some of our public systems have deteriorated to a dangerous level, we must also address an aspect of the problem that many other states need not deal with -- growth. We need to repair or replace some of our public systems, and we also need to construct new ones to meet the demands of growth intelligently.

The Colorado legislature is just beginning to embrace the concept of capital budgeting. In the past, surpluses were returned as tax rebates to the public. During the last two years, the recession has wiped out surpluses that could be used for capital budgeting. Capital investment plans are among the first items in a budget to be cut in economically difficult times. The result has been several years of underfinanced maintenance programs and postponement of needed capital construction.

However, this year two bills have been introduced in the state legislature which, if passed, will establish commissions for capital development and study of capital investment needs. The legislature has established a Water Authority to fund major water projects, and a Highway Users Tax Fund is being used for road repair and maintenance.

We should set aside $500 million over the next five years to meet the state's needs, but we cannot even meet that goal; the capital investment budget for 1984-1989 is only $391 million.

Transportation: Details on the components of our infrastructure are provided below: Transportation needs could use up 80% of our state capital budget. Two-thirds of that will be needed for maintaining our city and county roads.

The major need for most systems is for continued operating subsidies rather than for capital investment. Many of our bridges are dangerously weakened from years of use and a lack of major maintenance projects.

However, we are in critical need of a new airport, which could cost $2 billion over the next twenty years. We will also need expanded mass transit in the Denver metro area that could cost $1.9 billion between now and the year 2000.

Water: Colorado is a semi-arid state, making the collection and storage of precipitation essential. We will need more than $1 billion over the next five years to maintain and build the water collection and storage systems which Colorado needs for industry, agriculture, and population growth.

Housing: Some 68% of forecast investment needs are for housing. Most of this will be paid for by private companies, but the state will have to play a major role in coordinating and paying for the growth that is anticipated in the next twenty years.

NEAR-TERM INFRASTRUCTURE PRIORITIES

Having completed our initial study of the issue, both the Joint Economic Committee and NGA must look to the next steps. With your permission, I would like to list some of the areas on which I think we can work cooperatively in the coming months:

improved data collection (as I mentioned earlier in my testimony);

increased flexibility in federal infrastructure grant programs (also covered earlier);

development of the authorizing legislation for a federal infrastructure bank (although, as I mentioned, the federal fiscal situation must determine when funding can actually come on line);

increased funding for wastewater construction programs (NGA has recommended a $600 million annual increase in the wastewater construction grant program to a total level of $3 billion;

immediate action on the Interstate Cost Estimate (ICE) which must be taken by Congress to release $5.5 billion in highway funds. (34 states had already run out of money by mid-February. If congressional action is not forthcoming, many states will lose an entire construction season, driving up construction costs and disrupting the jobs of many Americans); and

protection of tax-exempt bonds as a financing mechanism for infrastructure. (More than one-third of all state and local capital expenditures are financed through this mechanism, and we are therefore deeply concerned by congressional proposals to restrict it).

SUMMARY

The point I want to make today is that the scope of our needs far exceeds our ability to pay for them under current policies.

In Colorado, we are grappling with the issues relating to investment in our infrastructure. Our state highways and bridges are being repaired; an executive five-year capital investment budget is in place; a Blue Ribbon Panel has assessed the needs of the state; and innovative financing programs are being explored.

But without a detailed national policy for capital investment and construction, and without establishing priorities for our investment such as maintaining existing roads before building new ones, the funds the states are able to invest in their infrastructure cannot be used for maximum effect.

We look forward to working with you in these important areas.

Representative **Hamilton**. Thank you very much, Governor. Let me pose a kind of political question, if I may, to begin.

Do we really have, in your judgment, a major, firm commitment to infrastructure as a priority Government expenditure, or are we in a kind of popular phase right now where everybody talks about infrastructure, a passing phase that will not be with us very long?

And if you believe that there is a major commitment on the part of your constituents and your people to infrastructure, why do you believe that?

Governor **Lamm**. I think we very much recognize the phase element of an awful lot of public policies. There are tides that ebb and flow.

I do think that the infrastructure is one of those items that has a great deal of bipartisan support, and it never became a public issue. Now there has been a massive referral to infrastructure commitments, and there has been a fallback, a deterioration, that I think keeps this so much in the mind of the public that it will remain a consistent political issue.

You don't avoid potholes. You see it and live with them on a day-to-day basis by traffic delay and inadequate services of a variety of types that I could put forth. And I think that the public demand will be there as long as the infrastructure continues to decay and deteriorate.

Mr. **Goldmark**. May I add something, Mr. Chairman?

I think Governor Lamm is right, but I would be a little more daring as a nonelected public official.

If you look at the bond issues that have been passed this past fall you will find more capital bond issues passing in the States than in any year since the early 1960's. But you will find they were for different kinds of commitments. This year they were for roads and for the other hard infrastructure systems.

Representative **Hamilton**. What kind of percentage approval did you get on the bond issues?

Mr. **Goldmark**. I am sorry I do not have the figures in my head. But the information comes from an article in the Wall Street Journal that indicated that more bond issues passed than at any time in the past 20 years.

So I believe there is a pattern of commitment at the State and local level which is pretty clear, and it's a pretty good acid test for those people who go into a voting booth and vote for a bond issue.

I believe—and I think a large portion of our advisory committee believes—that the level of Government which has not figured out what its commitment should be and how it should be carried out is the Federal Government.

Mr. **Kaplan**. The actual percentage, Congressman, exceeds 75 percent. That is, more than 75 percent of the bond issues passed last year. This is remarkable turnaround from the previous year.

Governor **Lamm**. I might add, Mr. Chairman, that within 1 year's time they had both a school facilities bond issue and the city's more general capital improvement bond issue on the ballot.

But I would say that the answer to your question is that if you asked that question in a roomful of local elected officials, they'd sort of slump and say, "My God, it's always been the issue." A pothole is the political cliché.

You are judged in local government by how clean your city is, by how well it operates, perhaps by the depth and breadth of the holes in the streets and bridges.

It is certainly an issue that is going to survive as a priority.

I would suggest that there is a more difficult problem for local elected officials, given cyclical economies and given a future in which revenue continues to stay static or decline, and that is the commitment to maintain those facilities which are repaired or replaced or are new. And there is nothing politically sexy about having the best maintenance budget in the 50 States. I mean, you hardly see people coming to the city council chambers with banners proclaiming, "The great maintainer is the mayor, and therefore he ought to be returned to office." There's just not much political capital in that.

I would suggest that that is really the issue. Most commonsense people will tell you, "If I vote for this bond issue, you guys had better keep this stuff up. I do not want to see graffiti all over it; I don't want to see it falling down; and I want you to maintain it."

That takes an operating budget commitment, which takes a healthy revenue situation.

Representative Hamilton. The principal recommendation which I think will catch the eye of Members of Congress, of course, will be your support of the National Infrastructure Fund.

I'd like one of you—I am not sure which one—to walk me through that procedure, describe how it would work, and give me your best judgments on costs and so forth.

Mr. Reuss. Mr. Chairman, let me take a quick start at that.

The National Infrastructure Fund would be a commitment like that which the Congress made in the Marshall plan or in the highway program in the 1950's. It would extend over a period of 10, or 17, or 20 years, or whatever the legislature decided. And in the particular model which we presented to you—not with the idea that that is the only way to do it, but with the idea that we ought to come up with something specific—we envisaged using the unparalleled borrowing power of the Federal Government as the raiser of funds.

Why not do it in advance by grants? Well, the budgetary impact of doing it that way, we believe, would be excessive.

So do it as business, and Government always handles capital projects. You borrow for the future.

All right, the Federal Government would then borrow, and currently a 30-year bond would have a yield of something approaching 12 percent.

Representative Hamilton. You'd do that through the Federal Financing Bank?

Mr. Reuss. Preferably; preferably. That is an efficient way of saying a fraction of a percentage. You would certainly want to do that.

Then the proceeds would be apportioned to States or State agencies according to some formula. We have not suggested a formula. Let me say that because of the findings of our committee that infrastructure deficiencies are a national problem and transcend what we sometimes see as the Sun Belt/Cold Belt problem we see—because it is a national problem the question of apportionment becomes easier. And indeed if this morning someone demanded of me that I suggest a formula, I would settle for per capita. I think that could be improved on, but that would be one quick, easy, digestible way of doing it.

At any rate, whatever the formula is, the proceeds of the Federal bond issue are then made available to the States, which then apportion them according to State and local plans.

Representative **HAMILTON**. Do the States set up their own financing mechanism?

Mr. **REUSS**. Yes. It is envisaged that there be an office in the State or a separate entity. That's probably something that should be left to the States.

At any rate, they then, without more, have 12 percent money. But 12 percent money is too expensive, and so we start out with the proposition that what in effect we are doing is relieving the States of the obligation to go to that conventional tax-exempt bond market, something that is now, say, 9½ percent. That market is already suffering. It is suffering, as we pointed out, because instead of the top bracket of 70 percent we now have a top bracket of 50 percent, and that makes tax-exempt bonds a little less glorious for the would-be tax avoider.

Second, all of the marginal industrial development bonds, individual home mortgage bonds, all of which carry the imprimature of a tax-exempt bond, means you have much more on the demand side for these bonds than you had, ergo, higher interest rates.

Brookings Institution estimates that for every $2 of subsidy which the Federal Government gives by a tax expenditure through the issuance of State bonds which are tax-exempt federally—for every $2, $1 goes up the flue; it is wasted on excessive benefits to those who buy the bonds, and never trickles through to the assumed beneficiary, the State or local government.

So that if the choice were between the Federal Government saying to the State, "All right, issue whatever amount of new tax-exempt bonds you want," and doing it the way we suggest, without any additional impact on the Federal treasury Uncle Sam could reduce the interest rate to the ultimate borrower to build the sewer or water system or mass transit system or road. There would be a 6-percent interest rate coupon rather than a 12-percent interest rate coupon.

Representative **HAMILTON**. And your proposal is that the Federal Government would pick up the interest rate?

Mr. **REUSS**. Yes, without cost to the Federal Government, assuming the choice in the State doing it by tax-exempt bonds, you could reduce that interest rate from 12 percent to 6 percent.

Now, our report gives as its ultimate goal an interest rate of zero because the Federal Government would subsidize the whole thing. That is a question of choice, to be worked out.

But even if all you did was just put in place the Federal borrowing mechanism, you could achieve an enormous amount of good. You would have doubled the bang for the buck that we get.

Representative **HAMILTON**. Have you made any estimate of the annual appropriation by the Federal Government that would be necessary?

Mr. **REUSS**. Yes.

Peter.

Mr. **GOLDMARK**. As you know, Mr. Chairman, we have deliberately not recommended an initial capitalization amount for this fund, but, as a rule of thumb, we have been assuming that roughly one-tenth of the capitalized amount would be annual interest, assuming a rate closer to 10 percent, rather than Mr. Reuss' rate of 12 percent.

Representative **HAMILTON**. How do you protect the mayor? We've got this traditional problem between the Governors and the mayors. How do you assure the mayor that he is going to get money for his bridges and not have the Governor take it all for the State? Or vice versa? [Laughter.]

Governor **LAMM**. Mr. Chairman, I think that's a subject of some debate, as you know, but there is some really important empirical evidence—there have been four major studies—as to whether or not the State or Federal Government is more cost-effective in terms of focusing the dollar in terms of need.

The Federal Government in 1977 had $16 billion for aid to cities, and the States had $60 billion. We are in the business, and I don't think we are as inefficient as Congress sometimes feels—that we get the rap for. The four major studies on how States use that dollar showed that they were cost-efficient in terms of focusing in on the greatest needs in the State.

So I think obviously where you stand is where you sit in this business, but I do think the States are a marvelous kind of entity to make those kinds of judgments. They are close enough to the situation to make intelligent judgments, and far enough away to be objective.

Representative **HAMILTON**. Are you comfortable with that, Mayor?

Mayor **ROYER**. No, sir; not at all. [Laughter.]

And it's not because of the performance of all of the States. There are States where they have urban problems and urban policies. They deal with large central cities, and deal with them effectively and well. But there are other States where, because of the geography, the central cities, the larger cities, with the bulk of the aging problem, whether it is bridges or people, are not dealt with fairly or even-handedly by a State government which gets its political forces from somewhere else.

So it does need to be carefully worked out.

I will tell you one thing, that almost regardless of where you live, what local officials want is local control. They want some local decision-making ability, and they want a percentage of the money that they make decisions on to come from the Federal Government.

I don't think those are inconsistent desires.

We had this debate in the committee. I think some compromises were reached. I think it was good, open debate that left everybody feeling better than I have heard people feel about this problem in many, many years.

Mr. **KAPLAN**. In the language, Congressman, of the report that we submitted, there is a workable formula. Cities should have access. We provided several options for the Congress to consider in terms of access.

Representative **HAMILTON**. Are you talking about this large report [indicating]?

Mr. **KAPLAN**. Yes, sir.

Representative **HAMILTON**. Mr. Goldmark, do you have any comments you want to make with regard to the question of the city-State problem?

Mr. **GOLDMARK**. No. Like the Governor, Mayor Royer, and other participants in that debate in Denver, I thought the compromise was a satisfactory one. Despite the presence of some tension around that issue, I was impressed by the remarkable degree of unanimity between mayors and governors saying it would be better to have a percentage of something than fight over nothing, and we've got to come together as cities and States from all regions on this. I want you to be aware of that spirit on our committee.

Representative **Hamilton**. Governor, did the National Governors' Association make a specific statement yesterday on infrastructure?

Governor **Lamm**. Yes, we did.

Representative **Hamilton**. What does it say?

Governor **Lamm**. It is in my prepared statement, and let me give you a few specifics.

Actually, it was a fairly general one:

> Federal, State, and local governments and the private sector must continue to work together to continue to make progress in funding gaps. The infrastructure area must remain a top national priority.

We didn't mean to make that quite as insipid as it was. It is really a general statement that puts us on record in this area and allows us, as a result of this study and others we didn't have in front of us, to participate. So I anticipate that at our summer meeting or some other meeting we can be more specific.

Representative **Hamilton**. Well, gentlemen, let me express my thanks to you once again for your presentation and the work that has gone into this, and say to you that I think the members of the Joint Economic Committee and other Members of Congress will take very seriously the recommendations that you have made.

I am personally quite intrigued by this National Infrastructure Fund proposal. I have talked with some of my colleagues on the Public Works Committee about it, and I think they are, as well.

My judgment is that you have made a very significant contribution toward helping the Congress deal with what we all know is a great problem that is going to require some hard choices.

Thank you very, very much.

Mr. Reuss.

Mr. **Reuss**. On behalf of the panel, we want to thank you and the Joint Economic Committee for your leadership throughout. And particularly we want to express our gratitude for your making available to us your genius emeritus, Mrs. Debbie Matz, who is wonderful.

Representative **Hamilton**. Thank you very much.

The subcommittee stands adjourned.

[Whereupon, at 11:40 a.m., the subcommittee adjourned, subject to the call of the Chair.]

APPENDIX

STATEMENT OF

JAMES L. LAROCCA, COMMISSIONER

NEW YORK STATE DEPARTMENT OF TRANSPORTATION

SUBMITTED TO

THE JOINT ECONOMIC COMMITTEE OF CONGRESS

February 29, 1984

We are very pleased to have the opportunity to present this statement to the Joint Economic Committee, and to make known our support for the establishment of a National Infrastructure Fund as proposed by the National Infrastructure Advisory Committee.

We would also like to acknowledge the excellent work that Henry Reuss, Peter Goldmark, Marshall Kaplan and many others have done in bringing us the JEC National Infrastructure Study. The scope and magnitude of this study far exceeds any other infrastructure study to date, and we expect that it will have a major impact on the national infrastructure debate.

It could be argued that 1983 was a year in which great strides were taken toward resolution of our transportation infrastructure problems. The year began with the signing into law of the Surface Transportation Assistance Act of 1982. The new Act will provide an estimated $3.1 billion for New York State in federal-aid for highways during federal fiscal years 1983-1986. This represents an additional $1.3 billion over the 1983 funding level, or an increase of 72 percent. Federal-aid for transit during the same period will amount to $3.2 billion, which is an increase of $1.1 billion, or 52 percent, above the funding level of FFY 1982. The combined total increase in federal highway and transit aid to New York State will be $2.4 billion over the four years of the Act.

Last November, the voters of New York State approved a bond issue for transportation infrastructure renewal, which we call the Rebuild New York Bond Issue. During the campaign, many people asked why the substantial increase in funding from the Surface Transportation Assistance

Act does not provide for all of our needs. The answer is that as of 1983, despite substantial past investments, 23 percent of state bridges and over half of local bridges were considered to be in need of rehabilitation or replacement. Additionally, 13 percent of State highway surfaces and 21 percent of State highway bases were rated in poor condition. Our analysis at the State Department of Transportation had identified $15 billion worth of needed transportation projects not covered by existing funding sources.

To halt this deterioration and start to close the funding gap, Governor Cuomo proposed, and the voters endorsed, the $1.25 billion Rebuild New York Bond Issue. Bond Issue funding will be the centerpiece of a $7.4 billion effort that includes enhanced Federal-aid from the STAA '82, and continued state support in a five year program to improve our system of roads, bridges and other transportation facilities.

The Rebuild New York Bond Program will fund a variety of rehabilitation and reconstruction projects that are vital to maintaining a strong overall transportation system. The program is designed to:

- leverage maximum federal highway aid;
- provide much needed funding for State and local projects that are not eligible for federal funds, and
- furnish resources for rail, port, airport and waterway projects to promote economic growth.

The Rebuild New York Program presents the New York State Department of Transportation with an unprecedented increase in program responsibilities. Contract lettings for construction projects will rise from $670 million this year to an estimated $825 million during the next State Fiscal Year. We will begin rehabilitation or replacement of more than 300 state and local bridges and we will rehabilitate 500 miles of state highway. We will also initiate $17 million in transit improvements in addition to the Metropolitan Transportation Authority capital program; $90 million in rail projects; $25 million in port projects; and $10 million for preservation of the State Barge Canal. Our highway letting target of $825 million will set a new record, up from the previous record of $721 million in 1977-78.

The Rebuild New York Program is strikingly similar to the proposed Transportation Infrastructure Renewal Program which was announced by Governor O'Neill of Connecticut last month. Renewal programs such as these are hard evidence that we have finally recognized the magnitude of the infrastructure problem and that substantial efforts are needed to simply stem the deterioration of past decades. However, we can't pass a transportation renewal bond issue every year. Stable, reliable, long-term funding mechanisms must be found which are adequate for the task before us.

There is an understandable tendency to think that the federal gas tax legislation and programs such as the Rebuild New York Bond Issue have solved all of our problems. Unfortunately, this is not the case. The Rebuild New York Program is an excellent start toward rebuilding and will keep us busy over the next few years. At the same time, it must be understood that public infrastructure in New York State and around the nation has been steadily deteriorating over the past two decades and cannot be fixed with a one-shot program, however well conceived and executed.

A key finding of the JEC Infrastructure Study is that all states face substantial infrastructure needs and insufficient revenue with which to meet them. The New York State case study revealed estimated investment needs for transportation, water supply and wastewater treatment of $104.5 billion for the 1983-2000 period. The estimate of available revenues is about $70 billion, leaving a revenue shortfall of about $35 billion.

For the 23 states studied, infrastructure needs for the same categories for the 1983 to 2000 period are projected to be about $750 billion in 1982 dollars. Revenue to meet these needs is projected to be about $460 billion resulting in a revenue shortfall of $290 billion. For the country as a whole, infrastructure needs are estimated to be $1,160 billion in 1982 dollars. Revenue to meet these needs is projected to be $710 billion leaving a financing gap of $450 billion.

The JEC Infrastructure Study points out that our infrastructure has deteriorated because of the pervasive decline in the annual rate of new infrastructure investment by all levels of government. In 1971 government investment in infrastructure amounted to 1.5% of Gross National Product. By 1981, this had fallen to about half the 1971 rate. Moreover, the continuation of current levels of infrastructure investment by government over the next decade will not meet projected needs.

State and local governments must increase their rate of investment to help close the funding gap, which many have already begun to do. While additional funds can be provided out of current revenues from taxes and user charges, most will probably be provided by issuing substantial amounts of new tax-exempt debt. Last November, voters in New York and across the nation approved the highest proportion of state and local bond issues since 1960. However, even with increased efforts at the state and local level, a significant funding gap will remain. Consequently, it is difficult to justify the notion that state and local governments can somehow find the capacity to close the infrastructure funding gap without help from the Federal government.

There are equally compelling arguments against the possibility that the tide of "New Federalism" can be reversed to permit the substantial increases in federal grant programs needed to close this gap. Even though grant programs may be the most efficent way of providing additional funds, the need for increased annual federal budget appropriations to fund such grant programs poses serious practical difficulties in a period when the magnitude of federal budget deficits is of widespread concern. Also, there is a general consensus among many public officials that a plateau may have been reached in the overall level of federal grant programs for public works projects. These existing grant programs are vital and must be preserved, but additional ways must be found to strengthen the federal/state/local partnership if the nation's infrastructure is to support a competitive national economy.

It is time for the federal government to reevaluate the ways it supports public works investment and establish new mechanisms that directly involve state and local governments in the process of raising new infrastructure capital. A National Infrastructure Fund, which is being proposed by the Joint Economic Committee of Congress, could be one of these new mechanisms.

The heart of the proposed National Infrastructure Fund mechanism is a working partnership between federal, state and local government to create a national pool of new capital for infrastructure. The actual process could be as follows:

- The fund would be established by an act of Congress and would be capitalized with a specified amount of long-term federal debt.
- Interest on this debt would be borne by the federal government.
- The Fund would lend its capital to state infrastructure banks at zero interest.
- The states would use the capital they receive to make self-liquidating, interest-free loans to infrastructure projects being undertaken by state and local operating agencies.
- These loans would be repaid from revenues generated by state or local taxes or user charges.
- The state would deposit a portion of these loan payments in sinking funds set up to assure repayment of the loans received from the Fund. The remainder of the loan payments would fund new loans to

support additional infrastructure projects. This process of recycling the loan payments multiplies the total dollar value of infrastructure projects funded by several times the dollar value of the loans received from the fund.

- As the loans made by the Fund to the states are repaid, the federal bonds originally issued to capitalize the Fund would be repaid.
- After the federal debt is fully retired, a permanent pool of infrastructure capital would remain in the hands of the states to help fund on-going renewal and replacement of infrastructure facilities.

There are four main advantages in creating the national pool of infrastructure capital through the National Infrastructure Fund mechanism:

- It avoids the numerous legal, financial and institutional problems that 50 state governments and more than 10,000 local governments would encounter in trying to raise the same amount of capital thorugh many individual debt issues.
- The debt would be issued in the taxable markets, which avoids the risk of overloading the much smaller tax-exempt market in any given year.
- The federal debt issued to capitalize the Fund would be fully retired when it matures with funds made available by state and local governments.

  This means that federal interest costs for this program are incurred only for a specific period of time rather than going on forever.
- The net cost to the federal budget would be a small percentage of the total dollar value of infrastructure projects funded.

Proposals to create national or state infrastructure development banks have been made over the past two decades. A number of infrastructure fund or bank proposals are being discussed now at both the state and national level. New Jersey and Massachusetts have either proposed or passed legislation to establish state infrastructure banks. Senator D'Amato has introduced a bill to create state infrastructure banks. All of these proposals have considerable merit and could be made compatible with the JEC proposal.

We think a National Infrastructure Fund is an exciting concept which holds promise for resolution of our long-term infrastructure needs. In light of the extent and character of the nation's infrastructure problems, I fully support efforts toward establishing the fund.

Thank you for the opportunity to share my thoughts with you on these matters of common concern and interest.

RESEARCH NOTES 4

Bypassing the States

Wrong Turn for Urban Aid

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FOREWORD

The issue of the responsiveness of state and federal aid to distressed cities has generated a great deal of attention in recent years. During periods of fiscal austerity, it is particularly important that the federal and state governments distribute aid so as to reflect the relative needs of our nation's largest cities. Whereas many officials assert that direct federal aid to localities is the most efficient way of allocating funds, the nation's governors have long argued that state governments, working with local governments, are better equipped to distribute state and federal funds to distressed communities than is the more removed federal bureaucracy.

This monograph examines the relative degree to which a combination of direct state aid and state-administered federal aid has been responsive to distressed cities from 1965 to 1977. The results of this study indicate that direct state aid, combined with state-administered federal aid, is more responsive to distressed cities than is direct federal assistance. This conclusion suggests that bypassing state governments with direct federal aid may not be in the interest of distressed cities, and that a stronger state role in federal programs may be the most efficient way of distributing intergovernmental assistance to localities.

DICK THORNBURGH
Governor of Pennsylvania
Chairman, NGA Committee on
Community and Economic Development

ELLA T. GRASSO
Governor of Connecticut
Chairman, NGA Subcommittee on
Urban Policy

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BYPASSING THE STATES: WRONG TURN FOR URBAN AID

Introduction

In response to public sentiment against high taxes and government expenditures, the Carter administration has pledged to balance the federal budget. State governments have been under similar pressure to reduce spending and limit tax increases.[1] These parallel forces require both levels of government to distribute their scarce resources in a manner that recognizes the relative needs of distressed localities.

Cities receive state and federal aid in three ways:

- direct state aid through programs such as education aid formulas, state revenue sharing programs, and states' sharing in the costs of city services
- state/federal programs under which states distribute federal and state funds to local jurisdictions using federal guidelines
- direct federal aid whereby the federal government distributes aid directly to a locality for such programs as community development and anti-recessionary assistance

States and the federal government often disagree on the best method for distributing aid. Federal officials often argue for direct federal aid to localities. In contrast, governors believe that combining direct state aid with state-administered federal aid results in a more efficient and responsive system. The Advisory Commission on Intergovernmental Relations contends that direct federal aid often ignores or undermines state plans and priorities in program areas for which states bear substantial responsibilities,

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This report was prepared by Fred Teitelbaum, director of research studies, and Alice E. Simon, research associate, National Governors' Association Center for Policy Research.

[1] *Tax and Expenditure Limitations, 1978* (Washington, D.C.: National Governors' Association, December 1978).

creating "management as well as policy headaches for the states."[2] This monograph addresses this issue by examining the relative degree to which a combination of direct state aid and state-administered federal aid (hereinafter referred to as state/federal aid) has been responsive to "distressed" cities from 1965 to 1977 versus the degree to which direct federal aid has been responsive to these cities.

Two sets of measures of state/federal and direct federal aid are employed in the analysis:

- per capita state/federal and per capita direct federal aid
- the percentage of each city's general revenues derived from state/federal and direct federal aid

Four indices of hardship are used to measure distress:

- Nathan and Adams' Hardship Index
- Congressional Budget Office (CBO) Social Index
- CBO Economic Index
- CBO Fiscal Index

Pearson Product Moment Correlation Coefficients were computed between each index and each of the two sets of assistance measures to compare the relative responsiveness of state/federal and direct federal aid to distressed cities. In general, the findings of this study indicate that state/federal aid is consistently more responsive to distressed cities than is direct federal aid.

1. Aid to American Cities

The federal government assists local governments through three major funding sources: grants-in-aid (which include general revenue sharing), loans, and tax expenditures. The largest of the three is grants-in-aid. Direct federal aid to localities grew from $1.2 billion to $16.6 billion between 1965 and 1977.[3] Areas in which the federal government awards grants include: education, employment, energy, commerce and housing credit, transportation, community and regional development, health, administration of justice, and general purpose fiscal assistance.

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[2] "A Tilt toward Washington Federalism in 1977," *Intergovernmental Perspective*, vol. 4, no. 1 (Winter 1978), p. 6.

[3] U.S. Department of Commerce, Bureau of the Census, *Governmental Finances in 1964–65*, p. 20, and *Governmental Finances in 1976–77*, p. 19.

In recent years, the federal government has increased its support of central cities through direct subsidies, focusing on distressed cities in particular. According to the Advisory Commission on Intergovernmental Relations, this growth has been spurred by the war on poverty programs instituted in the 1960s, the State and Local Fiscal Assistance Act of 1972 (general revenue sharing), the "blocking" of community development programs in 1974, and various economic stimulus programs such as anti-recession fiscal assistance, local public works, and Titles II and VI of the Comprehensive Employment and Training Act in 1976 and 1977.[4]

States assist local governments primarily through state intergovernmental transfer payments and direct state expenditures for state-local functions. Major services supported by the states include local schools, highways, public welfare, local criminal justice, health, and general local government support. Although state assistance to local governments has always been much larger in absolute terms than federal assistance and state assistance has increased substantially since 1965,[5] the rationale for many of the direct federal-local programs has been the claim that "state governments are generally unresponsive to the needs of the cities" and that the federal government "is more responsive to urban problems than state governments."[6] To test the merits of this rationale, it is necessary to compare the impact of direct federal grants, which as we have seen totaled $16.6 billion in 1977, with state-federal grants, which totaled $60.3 billion in that year,[7] on samples of the nation's largest cities. Such a comparison sheds new light on the effectiveness of the state-federal partnership in responding to urban distress.

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[4] John Shannon, "Our Central Cities: Creatures of the State or Wards of the Federal Government?" Remarks presented before the Committee on Taxation, Resources, and Economic Development, Cambridge, Massachusetts, October 22, 1977.

[5] In 1977, states spent from their own resources (exclusive of federal pass-through funds) a total of $78.1 billion to help local governments, a 272 percent increase from the $20.9 billion spent in 1965. In both years, the state contribution far exceeded that of the federal government, although the federal contribution, starting from a lower base, has increased more rapidly. Most of the state spending is through grants, often in conjunction with state aid, but a substantial portion is through direct state expenditures that do not show up in local government budgets and are therefore difficult to measure in terms of their distributional impact. A more comprehensive discussion of state aid to local governments can be found in *Allocation of State Funds to Local Jurisdictions* (Washington, D.C.: National Governors' Association, June 1978). For 1977 information, see *Significant Features of Fiscal Federalism, 1978–79* (Washington, D.C.: Advisory Commission on Intergovernmental Relations, May 1979), p. 18.

[6] Thomas R. Dye and Thomas L. Hurley, "The Responsiveness of Federal and State Governments to Urban Problems," *Journal of Politics*, vol. 40, no. 1 (February 1978), p. 203.

[7] *Governmental Finances in 1976–77*, p. 19.

2. Defining Distress

Defining a city as either distressed or subject to extreme hardship is a politically sensitive issue, given the amount of aid that is targeted directly or indirectly on this basis. For example, should cities in distress be restricted to only central urban areas or include older suburban areas and/or surrounding rural areas? Which economic, socioeconomic, and demographic indicators should be used to measure levels of hardship? Because of the problems inherent in developing a precise conceptual definition of distress, both the government and academic communities have developed a variety of indicators. Examples of measures of distress used in the past include attributes of the economic condition of the areas, the types of people inhabiting certain areas, and the "fiscal health" of city governments.

A key issue to be considered with respect to the distribution of funds to any urban area is the distinction between central cities and the metropolitan areas in which they are located. In the context of the responsiveness of aid to cities, emphasis is usually placed on central cities rather than on localities in general.

Two general approaches are used to determine the relative distress of cities. One defines distress in terms of disparities within metropolitan areas, for example, a central city relative to its suburbs. The other defines distress by measuring a city's level of distress against that of another city.

The rationale behind measuring distress within metropolitan areas is that the distress experienced by a central city is compounded by more affluent people and businesses leaving the central city for the suburbs. The Nathan and Adams' Central City Hardship Index is based on this premise. It is a composite index, calculated from 1970 census data, that measures the city-suburban ratio of six socioeconomic and demographic indicators: the unemployment rate, the number of persons either less than eighteen or over sixty-four years of age, the number of persons aged twenty-five or more with less than twelve years of formal education, per capita income level, the number of occupied housing units with more than one person per room, and the number of families with incomes below

125 percent of the low-income level.[8] The ratios were standardized, summed, and adjusted to a base of 100. A value below 100 indicates that a central city is better off than its suburbs. The index was calculated for the most populous cities in fifty-five of the sixty-six largest standard metropolitan statistical areas (SMSAs) having a population of over 500,000 in 1970 (see Table 1).[9] Fifty-four of these cities will be used in this analysis.[10]

The rationale behind the second approach is that cities differ in their ability to provide services that meet the basic needs of their citizens. In August 1978, the Congressional Budget Office (CBO) issued a report on the responsiveness of federal aid to city need that employed three such indices measuring three dimensions of distress: social, economic, and fiscal. A sample of forty-five cities was initially selected. However, because certain data were unavailable to calculate needed variables in each index, the final sample sizes for the economic, social, and fiscal indices were thirty-nine, forty-five, and thirty-eight, respectively.[11]

The social need index is a combination of the Nathan and Adams' inter-city and central city-suburban indices and is composed of six measures of distress: unemployment, income, poverty, dependency, education, and overcrowded housing. The economic index is composed of measures reflecting changes in a city's population, per capita income, manufacturing employment, total employment within metropolitan areas, population density, and proportion of housing stock built prior to 1940. Four measures were used to ascertain fiscal need: tax effort, property tax base,

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[8] 1970 census data are the most current data available for the indicators used to calculate this index. Consequently, an index of hardship that relies upon dated socioeconomic and demographic data will not truly represent the current situation of relevant localities.

[9] For an explanation of why eleven of these cities were omitted, see Richard P. Nathan and Charles Adams, "Understanding Central City Hardship," *Political Science Quarterly*, vol. 91, no. 1 (Spring 1976), p. 49.

[10] Recent census data indicate that the level of state revenues allocated to New York City is extremely high relative to all other cities in this index. For example, in 1976, New York State's contribution to New York City's general revenue fund was 15 percent higher than the total amount of state contributions made by nine states (in which the hardest-pressed cities are located) to their respective general revenue funds. To avoid biasing the analysis, New York City was omitted.

[11] For a complete description of these indices, see U.S. House of Representatives, Subcommittee on the City of the Committee on Banking, Finance and Urban Affairs, *City Need and the Responsiveness of Federal Grants Programs*, 95th Congress, 2nd session, August 1978. These indices were used to examine the distribution of general revenue sharing, community development block grants, anti-recession fiscal assistance, CETA, and local public works assistance programs.

Table 1

INDEX OF CENTRAL CITY HARDSHIP RELATIVE TO THE BALANCE OF SMSA FOR FIFTY-FIVE SELECTED SMSAs

Primary Central City of SMSA	Index Score	Rank	Primary Central City of SMSA	Index Score	Rank
Newark	422	1	Cincinnati	148	27
Cleveland	331	2	Pittsburgh	146	28
Hartford	317	3	Denver	143	29
Baltimore	256	4	Sacramento	135	30
Chicago	245	5	Minneapolis	131	31
St. Louis	231	6	Birmingham	131	32
Atlanta	226	7			
Rochester	215	8	Jersey City	129	33
Gary	213	9	Oklahoma City	128	34
Dayton	211	10	Indianapolis	124	35
(New York)	(211)	(—)	Providence	121	36
			Grand Rapids	119	37
Detroit	210	11	Toledo	116	38
Richmond	209	12	Tampa	107	39
Philadelphia	205	13	Los Angeles	105	40
Boston	198	14	San Francisco	105	41
Milwaukee	195	15	Syracuse	103	42
Buffalo	189	16	Allentown	100	43
San Jose	181	17			
Youngstown	180	18	Portland	100	44
Columbus	173	19	Omaha	98	45
Miami	172	20	Dallas	97	46
New Orleans	168	21	Houston	93	47
			Phoenix	85	48
Louisville	165	22	Norfolk	82	49
Akron	152	23	Salt Lake City	80	50
Kansas City, Mo.	152	24	San Diego	77	51
Springfield, Ma.	152	25	Seattle	67	52
Ft. Worth	149	26	Ft. Lauderdale	64	53
			Greensboro	43	54

Source: Richard P. Nathan and Charles Adams, "Understanding Central City Hardship," *Political Science Quarterly*, vol. 91, no. 1 (Spring 1976), Table 1, pp. 51–52.

and tax measures of service needs relative to tax base and tax effort.

To ensure that the results of this study are not artifacts of the hardship index used, the Nathan and Adams' and the three CBO

Table 2

INDEX OF SOCIAL NEED

(39 cities)[a]

City	Index Score	Rank	City	Index Score	Rank
Newark	100	1	Pittsburgh	43	20
Cleveland	67	2	(New York)	(41)	(21)
St. Louis	64	3	Sacramento	40	22
Detroit	62	4	Milwaukee	37	23
New Orleans	61	5	San Jose	37	24
Buffalo	61	6	Akron	37	25
Miami	60	7	Columbus	34	26
Gary	58	8	San Diego	30	27
Baltimore	55	9	Norfolk	30	28
Tampa	51	10	Oklahoma City	30	29
Birmingham	51	11	Kansas City, Mo.	29	30
Philadelphia	49	12	Los Angeles	27	31
Jersey City	48	13	Phoenix	24	32
Atlanta	47	14	San Francisco	22	33
Boston	45	15	Houston	21	34
Chicago	46	16	Indianapolis	21	35
Cincinnati	45	17	Denver	20	36
Louisville	45	18	Minneapolis	20	37
Rochester	44	19	Seattle	16	38
			Dallas	11	39

[a] Thirty-eight cities were used in this analysis. New York City was omitted for reasons cited on page 5.

Source: House of Representatives, *City Need and the Responsiveness of Federal Grants Programs*, Table 11, pp. 44–45.

indices were all used as indicators of city distress.[12] Fifty-nine cities appear in at least one of the indices, although no one index contains all fifty-nine. Tables 2, 3, and 4 present the cities and index scores for CBO's social, economic, and fiscal need indices, respectively.

3. Measuring Aid to Distressed Cities

One approach to a distributional study would be to focus on the extent to which programs designed to provide assistance to dis-

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[12] A discussion of the problems inherent within each of these indices and the interrelationships among them is presented in the Appendix.

Table 3

INDEX OF ECONOMIC NEED

(45 cities)[a]

City	Index Score	Rank	City	Index Score	Rank
Newark	84	1	Los Angeles	57	23
(New York)	(80)	(2)	Kansas City, Mo.	56	24
Jersey City	78	3	(Washington, D.C.)	(54)	(25)
Cleveland	78	4	New Orleans	53	26
Buffalo	77	5	Louisville	51	27
Chicago	76	6	Columbus	51	28
St. Louis	74	7	San Bernadino	49	29
Boston	74	8	Atlanta	45	30
Patterson	72	9	Birmingham	45	31
Pittsburgh	71	10	San Diego	43	32
Rochester	70	11	Sacramento	43	33
Philadelphia	70	12	Miami	42	34
San Francisco	68	13	Denver	41	35
Seattle	66	14	Norfolk	40	36
Detroit	66	15	Indianapolis	37	37
Cincinnati	65	16	Dallas	35	38
Akron	64	17	Oklahoma City	34	39
Milwaukee	64	18	Anaheim	31	40
Baltimore	63	19	El Paso	30	41
Minneapolis	62	20	Tampa	29	42
Albany	59	21	Houston	26	43
Gary	58	22	San Jose	24	44
			Phoenix	16	45

[a] Forty-three cities were used in this analysis. New York City was omitted for reasons cited on page 5. Washington, D.C. was omitted because of its non-state status.
Source: House of Representatives, *City Need and the Responsiveness of Federal Grants Programs*, Table 12, p. 48.

tressed cities accomplish that goal. Such an analysis would evaluate the responsiveness of each of these programs but would not deal with the aggregate effect across programs. Yet, because different levels of government or various states may have different program approaches to alleviate distress among states and localities, a program-by-program comparison of aid to localities has significant limitations. For example, some states may allocate relatively large amounts of economic and community development assistance to their cities and less aid in the areas of social services

Table 4

INDEX OF FISCAL NEED
(38 cities)[a]

City	Index Score	Rank	City	Index Score	Rank
(Washington, D.C.)	(84)	(1)	Louisville	35	20
Boston	72	2	El Paso	34	21
(New York)	(67)	(3)	Denver	33	22
Newark	65	4	Miami	31	23
St. Louis	61	5	Gary	31	24
Philadelphia	53	6	Tampa	29	25
Baltimore	52	7	Columbus	28	26
Jersey City	47	8	San Bernadino	28	27
Detroit	46	9	Albany	28	28
Birmingham	46	10	Akron	27	29
New Orleans	45	11	Sacramento	24	30
Patterson	45	12	Minneapolis	23	31
Buffalo	44	13	Indianapolis	22	32
Cincinnati	44	14	Phoenix	18	33
Norfolk	44	15	Los Angeles	18	34
Cleveland	42	16	San Diego	17	35
San Francisco	39	17	Seattle	13	36
Pittsburgh	37	18	San Jose	12	37
Rochester	36	19	Anaheim	10	38

[a] Thirty-six cities were used in the analysis. New York City was omitted for reasons cited on page 5. Washington, D.C. was omitted because of its non-state status.
Source: House of Representatives, *City Need and the Responsiveness of Federal Grants Programs*, Table 13, pp. 50–51.

and housing; other states may take the opposite approach to alleviating distress. Consequently, there is a trade-off between undertaking a program-by-program analysis, which involves precise but possibly misleading comparisons, and undertaking an analysis of the total amount of aid, which combines programs that are designed to target funds with those that are not. Because of the unavailability of data on a program level and on the assumption that all types of aid will directly or indirectly alleviate distress, this study focuses upon the aggregate assistance provided by direct federal and state/federal programs to city governments.

With this perspective in mind, this analysis employs two sets of measures of state/federal and direct federal aid to *city governments.*[13] These measures are:

- per capita state/federal and per capita direct federal aid
- the percentage of each city's general revenues derived from state/federal and direct federal aid

Per capita aid is defined as total dollars by source received by a city divided by its population. The percentage of each city's general revenues from state/federal and direct federal aid was derived by dividing each city's total general revenues into that portion accounted for by state/federal and direct federal aid. Each set of measures was constructed for 1965 and 1970 to 1977.[14]

The data from which the measures were derived came from Census of Government reports of the cities under examination. In the context of this study, one problem of this data set is the inability to separate from "state" contributions that portion of federal dollars that is passed through the states to the localities. Thus, for example, in U.S. Census Bureau reports, funds that pass through the states to a school district, such as under Title I of the Elementary and Secondary Education Act, are counted as a state contribution, not as federal assistance. Because the issue is *not* whether states acting independently have a better record of distributing aid to distressed cities than does the federal government, but whether in conjunction with the federal government states better allocate combined state and federal funds to distressed cities, this data problem is not significant.

The reader also should be aware that some state and federal aid that benefits city residents goes not to the city government but to special districts for such purposes as schools, mass transit, housing, and sewage treatment. Only the school funds are sufficiently large and traceable as to lend themselves to adjustments for purposes of this study. In some cities, school districts are part of the city government and are included in the revenue figures reported by the Census of Governments. However, thirty-five of the fifty-nine cities that are in one or more of the samples in this study have independent school districts that are not part of the city government and whose revenues are not included in these data. In order to ensure comparability of revenue data across cities, the budgets of these cities and their independent school districts were combined. Adjusted state/federal and adjusted direct federal aid figures reflect these school districts' revenues. Unfortunately, adjustments could be made only for 1971 and 1976, as data on independent school district allocations were available only for these two years. However, it appears that exclusion of these funds from the remaining years does not significantly alter the basic conclusions of this study.

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[13] State-federal and direct federal contributions to welfare payments are not included in any of the revenue measures as collected in the Census of Governments because none of the cities in our samples directly administers welfare programs. All of these distressed cities have been relieved of the burden of financing welfare by state or county governments.

[14] Further explanation regarding the construction of these measures is presented in the Appendix.

To determine whether state/federal aid or direct federal aid is more closely related to urban distress, the relationship between the two measures of aid and the four hardship indices was examined. If state/federal aid is better distributed to distressed cities, the relationship between the measures of state/federal aid and the hardship indices will be stronger than that between direct federal aid and the hardship indices. To test the strength of these relationships, Pearson Product Moment Correlation Coefficients were calculated. The Pearson Product Moment Correlation is a measure of the linear association between two variables. The results of the test indicate the direction and strength of the relationship. If the correlation coefficient is zero, there is no relationship between the two variables being studied. The closer the correlation is to 1.0 or −1.0, the stronger the relationship between the two variables. If the value is positive, a positive change in one variable is associated with a positive change in the other variable. In contrast, a negative correlation indicates that a positive change in one variable is associated with a negative change in the other.

Correlation coefficients were computed between the two measures of state/federal aid and the hardship indices on the one hand and between direct federal aid and the hardship indices on the other. The degree to which state/federal aid is responsive to distressed cities will be reflected in a higher positive correlation coefficient between these two sets of variables—aid and hardship. Consequently, by comparing the correlation coefficients between state/federal aid and the hardship indices and the correlation coefficients between direct federal aid and the hardship indices, one can ascertain the relative responsiveness of state/federal aid and direct federal aid to distressed cities. For example, if the correlation coefficient between state/federal aid and the social index is .5270 and the comparable correlation coefficient for direct federal aid is .3507, state/federal aid is more highly related to the hardship index than is direct federal aid. This finding can be interpreted as meaning state/federal aid is more responsive to distressed cities than is direct federal aid. The correlations between state/federal and direct federal aid and the hardship indices can be compared only within each of the four indices independently. To examine the relative distributional responsiveness of these two sources of funds over time, correlation coefficients were computed for 1965 and 1970 through 1977.

4. Results

Per Capita Aid. Allocations of state/federal and direct federal aid on a per capita basis are, perhaps, the most direct measure of assistance to the sample cities because they take into account differences in the size of the populations. Table 5 shows the correlation coefficients between state/federal and direct federal aid and the four hardship indices. These correlations indicate that regardless of the hardship index used, state/federal aid is more responsive to distressed cities than is direct federal aid, and state/federal aid becomes increasingly more responsive across time.

In terms of the first conclusion, only in 1965 for both the social and fiscal hardship indices are the correlations between direct federal aid and these indices higher than those between state/federal aid and the indices. In 1976, direct federal aid and state/federal aid are distributed essentially the same with respect to the fiscal hardship index. When the revenues for independent school districts are included, state/federal aid is more responsive in 1971 and 1976 on all indices.

Generally, these data suggest that state/federal aid is increasingly more responsive from 1965 to 1976 on the economic and fiscal indices and from 1965 to 1975 on the Nathan and Adams' and social indices, and only slightly less responsive thereafter. For example, the correlations between state/federal aid and the Nathan and Adams' hardship index were .2101 in 1965, .5060 in 1975, and .4830 in 1977.

A scrutiny of the responsiveness of direct federal aid to distressed cities shows a somewhat different pattern. The correlations using the social index were low in all years, the highest correlation being .2438 in 1977. On the Nathan and Adams' index, direct federal aid apparently was not very responsive to distressed cities from 1965 to 1973. The correlations between per capita

Table 5

CORRELATIONS BETWEEN PER CAPITA STATE/FEDERAL AND DIRECT FEDERAL AID AND HARDSHIP INDICES[a]

Index	1965	1970	1971	1972	1973	1974	1975	1976	1977
NATHAN/ADAMS INDEX									
State/federal	.2101	.2710	.2921	.3771	.4112	.4161	.5060	.4913	.4830
Direct federal	.0735	.0862	.1595	.0759	.1259	.3129	.2516	.0888	.3144
Adjusted state/federal			.2851					.5555	
Adjusted direct federal			.1102					.0764	
CBO SOCIAL INDEX									
State/federal	.0261	.1333	.1510	.2679	.3312	.3529	.4391	.4096	.3962
Direct federal	.0538	−.0360	.0337	−.0239	.0793	.1241	.1851	.1156	.2438
Adjusted state/federal			.1817					.5232	
Adjusted direct federal			.0169					.1146	
CBO ECONOMIC INDEX									
State/federal	.3163	.3960	.3859	.4287	.4582	.4466	.4488	.4597	.4557
Direct federal	.1035	.2762	.3152	.2696	.2360	.2585	.2622	.3258	.3612
Adjusted state/federal			.4062					.5607	
Adjusted direct federal			.2768					.3153	
CBO FISCAL INDEX									
State/federal	.3872	.3946	.4064	.4509	.5507	.5340	.5631	.5706	.5551
Direct federal	.4347	.2265	.2960	.3330	.3121	.4183	.4955	.5742	.5040
Adjusted state/federal			.4068					.5977	
Adjusted direct federal			.2778					.5643	

[a] Correlations of .2516, .2679, .2585 and .2960 or greater are statistically significant to at least the .05 level for the Nathan and Adams', social, economic, and fiscal hardship indices, respectively.

direct federal aid and this hardship measure were extremely low. In contrast, the distribution of direct federal aid to distressed cities improved in 1974, 1975, and 1977. However, the increase in federal responsiveness is seen primarily in terms of the economic and fiscal hardship indices. The correlations between direct federal aid and the economic hardship index over time indicate that direct federal aid was poorly allocated in 1965, improved significantly in 1970, and remained at that level fairly consistently until 1976 when it improved again. Using the fiscal hardship index, direct federal aid was distributed well in 1965 and less well until 1974, when it became more responsive.

In general, these correlations show that per capita state/federal aid is much more responsive to distressed cities than is direct federal aid, regardless of the measure used to reflect city hardship. Moreover, as measured by per capita aid, state/federal assistance to distressed cities has been rather well distributed since 1965 and has been increasingly better allocated thereafter.

Aid as a Percent of a City's Budget. The relationships between state/federal and direct federal aid as a percent of a city's budget further buttress the findings that state/federal aid is more responsive to distressed cities than is direct federal aid. As shown in Table 6, only in 1965 for the social and fiscal hardship indices is direct federal aid better distributed than state/federal aid. As indicated by the negative correlations between direct federal aid and the hardship indices, direct federal aid for all of the hardship indices is so poorly allocated that a disproportionate amount of aid appears to be distributed to the least distressed cities In seven of the nine years for the Nathan and Adams' index, six years for the economic index, and five years for the other hardship indices, direct federal aid as a percentage of a city's budget is *negatively* related to the hardship indices. In most other years, the correlations between these measures hover around zero, suggesting poor allocation of direct federal aid to distressed cities.

In contrast, only in 1965 does the correlation for the social hardship index indicate that state/federal aid is negatively related to hardship. Using the Nathan and Adams' and the fiscal hardship indices, state/federal aid is fairly well distributed to distressed cities from 1965 to 1971 and better distributed thereafter. From 1970 to 1977, the correlations between this measure of aid and the economic hardship index consistently range from a low of .3389 in 1971 to a high of .4443 in 1973. On the social hardship index, state/federal aid to distressed cities is poorly distributed from

Table 6

CORRELATIONS BETWEEN STATE/FEDERAL AND DIRECT FEDERAL AID AS A PERCENT OF CITY REVENUES AND HARDSHIP INDICES[a]

Index	1965	1970	1971	1972	1973	1974	1975	1976	1977
NATHAN/ADAMS INDEX									
State/federal	.1683	.1753	.1935	.3074	.3407	.2827	.4041	.4175	.3932
Direct federal	.0167	−.0004	.1047	−.0630	−.1435	−.0177	−.0708	−.2371	−.0740
Adjusted state/federal			.1303					.4714	
Adjusted direct federal			−.0319					−.2479	
CBO SOCIAL INDEX									
State/federal	−.0573	.0703	.0754	.2308	.2908	.3244	.4154	.3913	.3764
Direct federal	.0464	−.0705	.0452	−.0268	−.0633	−.0308	.0143	−.0639	.0415
Adjusted state/federal			.1629					.5618	
Adjusted direct federal			−.0414					−.1244	
CBO ECONOMIC INDEX									
State/federal	.2483	.3827	.3389	.4258	.4443	.3804	.4250	.4310	.3907
Direct federal	−.0713	.0747	.1940	.0213	−.1122	−.1602	−.2068	−.1238	−.0383
Adjusted state/federal			.1837					.5261	
Adjusted direct federal			.0314					−.1568	
CBO FISCAL INDEX									
State/federal	.1131	.2001	.2011	.2910	.4021	.3288	.4133	.4120	.3429
Direct federal	.2579	−.0464	.0471	−.0615	−.2001	−.0960	−.0738	.1075	.0142
Adjusted state/federal			.2327					.4147	
Adjusted direct federal			.0265					.1931	

[a] Correlations of .2371, .2908, .2483 and .2910 are statistically significant to at least the .05 level for the Nathan and Adams', social, economic and fiscal hardship indices, respectively.

1965 to 1971, fairly well distributed in 1972, and even better distributed from 1973 through 1977. When independent school district revenues are included, the correlations either remained the same or increased, except for 1971 on the Nathan and Adams' and the economic hardship indices.

Thus, using this measure of aid, state/federal aid is much more responsive to distressed cities than is direct federal aid. This conclusion is generally true regardless of the hardship index used or the year examined.

The Role of State Government in State-Local Functions. Throughout this analysis, the underlying assumption has been that all of the states represented in the four samples of cities have similar views of the roles and functions of state governments relative to their local governments; that is, the analysis assumed implicitly that all of these states have similar perspectives regarding the appropriate scope of governmental services that state, as opposed to local, governments should provide, as well as which level of government—state or local—should finance these services. States that assume a larger role in the provision and financing of services would be less likely to contribute more funds to all cities, including distressed cities, than those states that allow local governments to provide and finance more services.[15] Thus, the findings reached in this analysis might be artifacts of the systematic variation among states in the scope of services provided for cities.

To determine whether the findings have been distorted by such variations, correlations between the measures of state/federal and direct federal aid and the four hardship indices were calculated controlling for the effect of the role of the sample states relative to their localities. Thirty states are represented in the Nathan and Adams' index; twenty-four in the social index; twenty-four in the economic index; and twenty in the fiscal index. Two measures of the state role versus the local role were employed: the proportion of total state and local tax revenues generated by the state and the percentage of state and local expenditures from own revenues accounted for by state government. The higher a given state's proportion of total state and local expenditures and revenues, the larger the role that state plays in providing and financing services relative to its localities.

As indicated by the partial correlations in Tables 7 through

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[15] See James A. Maxwell and J. Richard Aronson, *Financing State and Local Governments*, 3rd ed. (Washington, D.C.: Brookings Institution, 1977), pp. 31–32.

10, the conclusion that state/federal aid is more responsive to distressed cities than is direct federal aid is substantiated. While the partial correlations between the measures of state/federal aid and the four hardship indices are sometimes lower than those for which no account was taken for the effect of differing state roles, they are higher than the federal aid partial correlations with few exceptions across all the measures and years; that is, the states remain more responsive after taking into account the effects of the differences in the roles they play with respect to their localities. Thus, the proposition that state/federal funds are more responsive to distressed cities than are direct federal funds is not altered when the effects of different roles and functions of state governments are taken into account.

5. Conclusion

On the basis of four hardship indices and two measures of financial aid, this study found that a state-federal partnership in allocating aid to local jurisdictions has produced greater responsiveness to distressed cities than has federal aid alone. Among plausible explanations for this finding are the substantial management difficulties inherent in the federal attempt to deal directly with vast numbers of local governments, the perceived need for direct federal aid programs to include a sufficient number of local jurisdictions to assure majority votes in the Congress, and the inability of federal grant programs to take account of differing fiscal relationships among levels of government. For example, the percentage of state-local costs borne by state governments ranges from 48.3 percent in New York to 79.5 percent in Hawaii. Similarly, the functions of counties, townships, municipalities, and special districts vary greatly from state to state; it is virtually impossible for the federal government to accommodate these complex relationships in its aid programs.

In contrast, individual states deal with smaller numbers of local governments, have a fuller understanding of their problems, and therefore can deal with those problems in a more flexible manner. States can target funds, for example, by buying out fixed percentages of certain local government functions, such as court, health, or education costs, that are disproportionately burdensome to distressed areas. State formulas for distributing aid are not immune to technical problems or to the need for building legislative majorities, but these shortcomings may not be as pronounced at the state level because of the smaller scale and more homogeneous

Table 7

CORRELATIONS BETWEEN PER CAPITA STATE/FEDERAL AND DIRECT FEDERAL AID AND HARDSHIP INDICES CONTROLLING FOR STATE TAX REVENUE AS PERCENT OF STATE/LOCAL TAX REVENUES[a]

Index	1965	1970	1971	1972	1973	1974	1975	1976	1977
NATHAN/ADAMS INDEX									
State/federal	.1863	.2503	.2533	.3357	.3693	.3800	.4245	.4085	.4205
Direct federal	.1270	.0638	.1375	.0350	.1454	.3421	.3225	.0563	.2877
Adjusted state/federal			.2670					.5060	
Adjusted direct federal			.0959					.0503	
CBO SOCIAL INDEX									
State/federal	.0066	.1141	.1341	.2539	.3199	.3425	.3929	.3592	.3602
Direct federal	.0815	−.0450	.0317	−.0284	.0848	.1564	.2077	.1120	.2313
Adjusted state/federal			.1721					.4918	
Adjusted direct federal			.0195					.1154	
CBO ECONOMIC INDEX									
State/federal	.2914	.3667	.3394	.3780	.4084	.3987	.3481	.3585	.3867
Direct federal	.1804	.2772	.3365	.2824	.2928	.4105	.3689	.3639	.3823
Adjusted state/federal			.4020					.5353	
Adjusted direct federal			.3151					.3627	
CBO FISCAL INDEX									
State/federal	.3905	.3998	.4108	.4593	.5636	.5442	.5321	.5406	.5421
Direct federal	.4444	.2267	.2989	.3354	.3245	.4628	.5684	.6026	.5160
Adjusted state/federal			.4063					.5786	
Adjusted direct federal			.2832					.5981	

[a] Correlations of .2325, .3199, .2772 and .2832 or greater are statistically significant to at least the 0.5 level for the Nathan and Adams', social, economic, and fiscal hardship indices, respectively.

Table 8

CORRELATIONS BETWEEN STATE/FEDERAL AND DIRECT FEDERAL AID AS A PERCENT OF TOTAL CITY REVENUES AND HARDSHIP INDICES CONTROLLING FOR STATE TAX REVENUES AS PERCENT OF TOTAL STATE AND LOCAL TAX REVENUES[a]

Index	1965	1970	1971	1972	1973	1974	1975	1976	1977
NATHAN/ADAMS INDEX									
State/federal	.1487	.1609	.1391	.2519	.2865	.2433	.3166	.3338	.3371
Direct federal	.1278	−.0108	.0936	−.0783	−.1185	.0411	.0267	−.1702	−.0072
Adjusted state/federal			.1483					.4431	
Adjusted direct federal			−.0128					−.1963	
CBO SOCIAL INDEX									
State/federal	−.0725	.0544	.0524	.2140	.2775	.3128	.3699	.3441	.3446
Direct federal	.1129	−.0633	.0527	−.0125	−.0475	.0200	.1599	.0493	.1157
Adjusted state/federal			.1664					.5476	
Adjusted direct federal			−.0229					−.0507	
CBO ECONOMIC INDEX									
State/federal	.2239	.3517	.2685	.3578	.3800	.3124	.3160	.3313	.3208
Direct federal	.0614	.0974	.2418	.0756	−.0420	.0224	.0287	.0836	.1024
Adjusted state/federal			.1991					.5312	
Adjusted direct federal			.1017					−.0451	
CBO FISCAL INDEX									
State/federal	.1141	.2040	.2047	.3022	.4227	.3398	.3613	.3611	.3091
Direct federal	.2830	−.0468	.0514	−.0583	−.2031	−.1029	.0675	.2578	.0997
Adjusted state/federal			.2331					.3997	
Adjusted direct federal			.0337					.2908	

[a] Correlations of .2775, .2433, .2685, and .2830 or greater are statistically significant to at least the 0.5 level for the Nathan and Adams', social, economic, and fiscal hardship indices, respectively.

Table 9

CORRELATIONS BETWEEN PER CAPITA AID AND HARDSHIP INDICES CONTROLLING FOR STATE EXPENDITURES AS PERCENT OF STATE/LOCAL EXPENDITURES[a]

Index	1965	1970	1971	1972	1973	1974	1975	1976	1977
NATHAN/ADAMS INDEX									
State/federal	.2034	.2617	.2915	.3672	.4011	.4101	.5000	.4836	.4732
Direct federal	.1207	.0970	.1642	.0774	.1828	.3492	.2693	.1043	.3140
Adjusted state/federal			.2876					.5503	
Adjusted direct federal			.1112					.0913	
CBO SOCIAL INDEX									
State/federal	.0144	.1109	.1320	.2461	.3099	.3332	.4434	.4138	.3926
Direct federal	.0889	.0268	.0477	−.0105	.1037	.1937	.1948	.1187	.2464
Adjusted state/federal			.1725					.5235	
Adjusted direct federal			.0358					.1179	
CBO ECONOMIC INDEX									
State/federal	.3236	.3719	.3663	.4029	.4327	.4219	.4440	.4549	.4569
Direct federal	.1962	.3403	.3590	.3137	.3054	.4045	.3142	.3565	.3677
Adjusted state/federal			.4135					.5689	
Adjusted direct federal			.3304					.3474	
CBO FISCAL INDEX									
State/federal	.3858	.3749	.4039	.4497	.5519	.5398	.5923	.5997	.5730
Direct federal	.4845	.2667	.3097	.3487	.3398	.4937	.4922	.5672	.4997
Adjusted state/federal			.4063					.6004	
Adjusted direct federal			.2948					.5573	

[a] Correlations of .2617, .3099, .3025, and .2948 or greater are statistically significant to at least the .05 level for the Nathan and Adams', social, economic and fiscal hardship indices, respectively.

Table 10

CORRELATIONS BETWEEN AID AS A PERCENT OF CITY REVENUE AND HARDSHIP INDICES CONTROLLING FOR STATE EXPENDITURES AS PERCENT OF TOTAL STATE AND LOCAL EXPENDITURES[a]

Index	1965	1970	1971	1972	1973	1974	1975	1976	1977
NATHAN/ADAMS INDEX									
State/federal	.1862	.1729	.1921	.2960	.3284	.2832	.4035	.4138	.3888
Direct federal	.1277	.0245	.1153	−.0461	−.0978	.0129	−.0449	.2178	−.0513
Adjusted state/federal			.1519					.4715	
Adjusted direct federal			−.0067					−.2208	
CBO SOCIAL INDEX									
State/federal	−.0476	.0531	.0576	.2111	.2710	.3049	.4166	.3419	.3738
Direct federal	.1404	−.0358	.0812	.0217	−.0201	.0705	.0211	.0709	.0660
Adjusted state/federal			.1711					.5648	
Adjusted direct federal			.0087					.1364	
CBO ECONOMIC INDEX									
State/federal	.2889	.3542	.3143	.3971	.4163	.3468	.4204	.4282	.3904
Direct federal	.0998	.1697	.2679	.1020	−.0323	−.0164	−.1950	−.0969	−.0314
Adjusted state/federal			.2015					.5506	
Adjusted direct federal			.1103					−.1373	
CBO FISCAL INDEX									
State/federal	.1229	.1632	.1955	.2875	.4037	.3272	.4556	.4436	.3597
Direct federal	.3653	.0094	.0639	−.0473	−.1956	−.0824	−.1734	.0481	−.0206
Adjusted state/federal			.2344					.4077	
Adjusted direct federal			.0473					.1568	

[a] Correlations of .2832, .2710, .2679, and .2875 or greater are statistically significant to at least the .05 level for the Nathan and Adams', social, economic and fiscal hardship indices, respectively.

nature of the intergovernmental system. Finally, state aid programs are much more likely to take account of fiscal relationships among levels of government because these relationships are defined in state laws, constitutional provisions and customs.

Governors have long argued that state governments, working with local governments, are in a better position to allocate state and federal funds to distressed communities than is a distant federal bureaucracy. Consequently, the federal government should not bypass the states in its efforts to define and respond to the problems of distressed communities. While the data do not permit a conclusion that states by themselves always respond successfully to distressed cities, this analysis demonstrates that the state-federal partnership works for the distressed cities of America. Because most aid to cities originates from the state level, these findings suggest that bypassing state governments with direct federal-local aid may be counterproductive for those who seek greater responsiveness to areas of need.

Within this context, states are pressing to gain flexibility in coordinated management of federal grants-in-aid programs. No longer do governors and legislatures appear to be the automatic enemies of the distressed urban communities. In fact, mayors often find more understanding of the problems of urban revitalization, mass transit, and housing in the state capitols than in Washington. The findings of this study suggest that the goal of greater public sector responsiveness to areas of need should be accomplished through a true state-federal partnership in which the states play an important role.

APPENDIX

Description of Measures Used in the Analysis

Per Capita State/Federal and Direct Federal Aid Measures. For these measures, the following population data by city were used to calculate per capita aid for both state/federal and direct federal assistance. The formulas used for these calculations were:

- 1965 revenue data/1960 population
- 1970, 1971, and 1972 revenue data/1970 population
- 1973 and 1974 revenue data/1973 population
- 1975, 1976, and 1977 revenue data/1975 population

Percentage of Total State and Local Tax Revenues Generated by State Government. For these measures, the following percentage data were used as control variables for revenue data:

- 1967 percentages: applied to 1965 and 1970 revenue data
- 1971 percentages: applied to 1971, 1972, 1973, and 1974 revenue data
- 1975 percentages: applied to 1975 and 1976 revenue data
- 1977 percentages: applied to 1977 revenue data

Source: *Significant Features of Fiscal Federalism, 1978–79* (Washington, D.C.: Advisory Commission on Intergovernmental Relations, May 1979), Table 32, p. 50.

Percentage of Total State and Local Expenditures Generated from Own Sources. For these measures, the following percentage data were used as control variables for revenue data:

- 1966 percentages: applied to 1965 and 1970 revenue data
- 1971 percentages: applied to 1971, 1972, 1973 and 1974 revenue data
- 1975 percentages: applied to 1975 and 1976 revenue data
- 1977 percentages: applied to 1977 revenue data

Source: *Significant Features of Fiscal Federalism,* Table 8, p. 14.

Adjustment Description

Thirty-five of the fifty-four cities selected for analysis from the Nathan and Adams' Hardship Index have independent school districts. The revenues allocated to these school districts are separate from the monies included in the revenue figures recorded by the Bureau of the Census. Therefore, the federal and state revenue figures for these cities undercount the amount of money available to a city. In addition, these independent school districts serve both city and non-city resident students. City resident students may also attend schools outside the independent school district according to their residential location.

In order to reflect accurately the amount of education revenue that should be added to the Census tabulations, data were collected on the percentage of students attending a particular independent school district who reside within that particular city. This percentage was applied to the total amount of state and federal revenue allocated to that particular independent school district and then added to the total state and federal revenue figures. The result is the adjusted state/federal and adjusted direct federal revenue figures. Percentage data were only available for 1971 and 1976.

Data Sources

Total Revenue, State Revenue, Federal Revenue, and Population. U.S. Department of Commerce, Bureau of the Census, *City Government Finances,* 1964–65, GF 65, no. 4; 1969–70, GF 70, no. 4; 1970–71, GF 71, no. 4; 1971–72, GF 72, no. 4; 1972–73, GF 73, no. 4; 1973–74, GF 74, no. 4; 1974–75, GF 75, no. 4; 1975–76, GF 76, no. 4; 1976–77, GF 77, no. 4; Table 5.

Nathan's Index. Richard P. Nathan and Charles Adams, "Understanding Central City Hardship," *Political Science Quarterly,* vol. 91, no. 1 (Spring 1976).

Social, Economic and Fiscal Need Index. Congressional Budget Office, *City Need and the Responsiveness of Federal Grant Programs,* a report prepared for the House Subcommittee on the City by Peggi Cucitti of the CBO staff, August 1978.

State/Federal and Direct Federal Revenues Allocated to Independent School Districts. U.S. Department of Commerce, Bureau of the Census, *Fiscal Government Finances in Selected Metropolitan*

Areas and Large Counties: 1970–71, GF 71, no. 6; 1975–76, GF 76, no. 6, Table 2.

Percent of Students in Independent School Districts within Sample Cities. Data supplied by the Bureau of the Census.

Adjusted State/Federal and Adjusted Direct Federal Aid. Compiled by NGA staff using *City Government Finances, Government Finances in Selected Metropolitan Areas,* and data supplied by the Bureau of the Census.

Interrelationships among Indices

The use of these hardship indices does not imply that these indices are ideal. The Nathan and Adams' index has two major drawbacks. First, a relatively well off city in absolute terms, for example, Denver, may appear distressed on the Nathan and Adams' index only because the gap between it and its suburbs is greater than in a poorer city that resembles its suburbs more closely. Second, four of the six variables used in the Nathan and Adams' index do not take into account population size and consequently may be biased toward large cities. The CBO social index, which is a combination of the Nathan and Adams' central city and city-suburban indices, suffers from this same problem. In addition, the three indices used in the CBO study can also be criticized because the measures that were used to tap social, economic, and fiscal distress of a city do not take into account all facets or consider only some aspects of the dimensions of distress to which these indices speak. It should also be noted that these four hardship indices represent initial attempts to measure distress and are solid attempts to address this most difficult conceptual and measurement problem. Despite these possible shortcomings, the relatively high correlations among these indices suggest that all four of these indices reflect an underlying phenomenon of distress.

CORRELATIONS AMONG THE NATHAN AND ADAMS', SOCIAL, ECONOMIC AND FISCAL INDICES

	Nathan and Adams	Social	Economic	Fiscal
Nathan and Adams		.8124	.5715	.5961
Social	.8124		.5041	.6579
Economic	.5715	.5041		.6353
Fiscal	.5961	.6579	.6353	

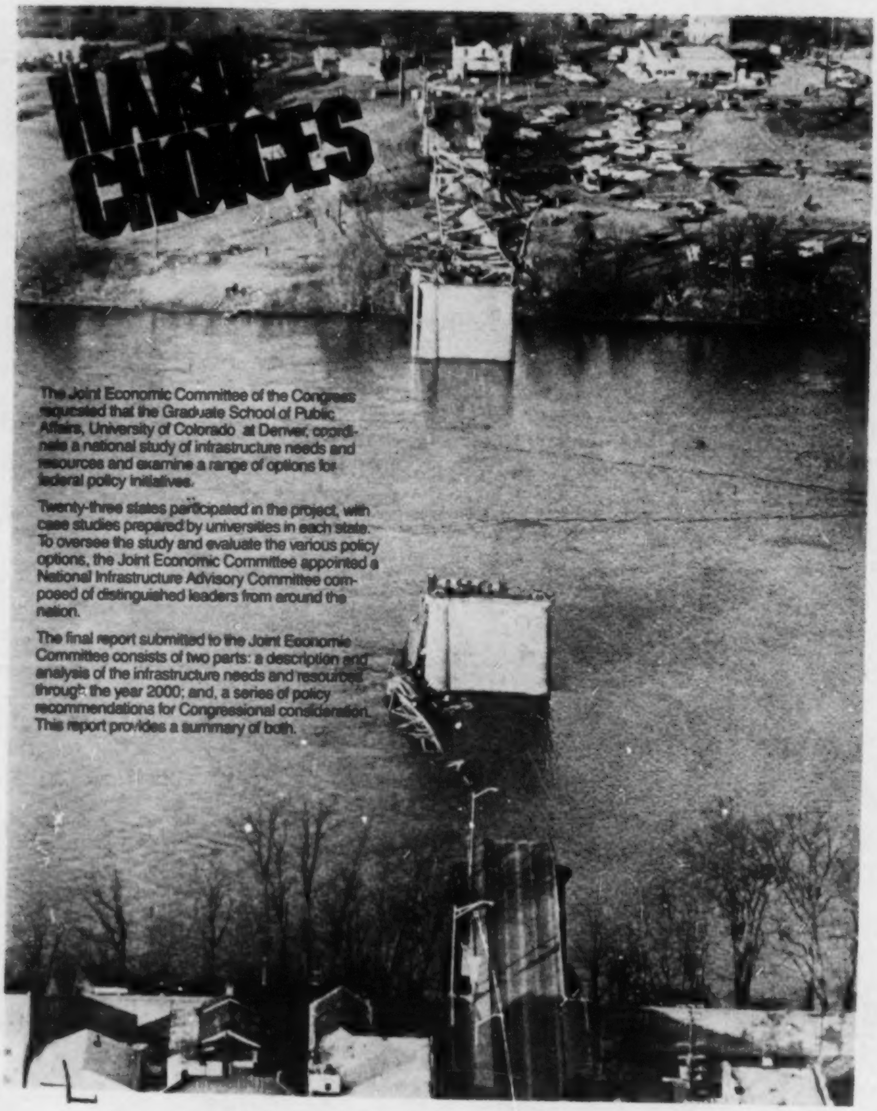
It also should be noted that the National Governors' Association has pointed out that conventional measures of distress used in many federal programs often ignore the problems of small communities, rural areas, and communities whose infrastructure is overwhelmed by rapid growth because of energy development. This study, however, focuses on whether state/federal aid is responsive to the conventional measures of urban distress because these conventional measures are part of the rationale for many direct federal-local programs.

A REPORT ON THE INCREASING GAP BETWEEN AMERICA'S INFRASTRUCTURE NEEDS AND OUR ABILITY TO PAY FOR THEM

HARD CHOICES

A Summary Report of the
National Infrastructure Study
Prepared for the
Joint Economic Committee
of the United States Congress

February 1984



HARD CHOICES

The Joint Economic Committee of the Congress requested that the Graduate School of Public Affairs, University of Colorado at Denver, coordinate a national study of infrastructure needs and resources and examine a range of options for federal policy initiatives.

Twenty-three states participated in the project, with case studies prepared by universities in each state. To oversee the study and evaluate the various policy options, the Joint Economic Committee appointed a National Infrastructure Advisory Committee composed of distinguished leaders from around the nation.

The final report submitted to the Joint Economic Committee consists of two parts: a description and analysis of the infrastructure needs and resources through the year 2000; and, a series of policy recommendations for Congressional consideration. This report provides a summary of both.

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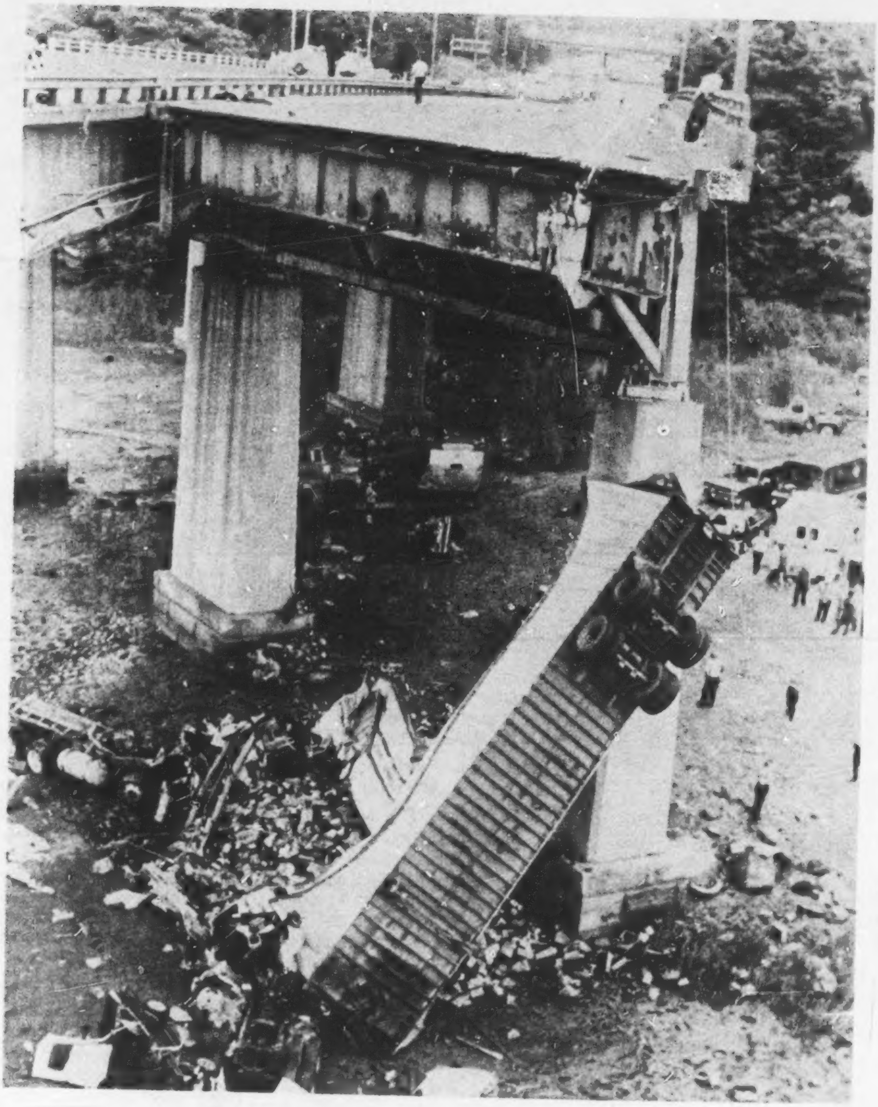
Frank Cesario

Joint Economic Committee of Congress

Project Director **Deborah Matz**

The 1967 collapse of the Silver Bridge between West Virginia and Ohio was instrumental in the establishment of the federal bridge inspection program which, in turn, revealed a national problem of major proportions.



HARD CHOICES

The word "infrastructure" is a term that describes the basic network of facilities that drive our economy: our transportation, water and wastewater systems.

The word "infrastructure" is a term that describes the basic network of facilities that drive our economy: our transportation, water and wastewater systems.

As many frustrated public officials have observed, people generally don't care about the state of the nation's infrastructure.

Perhaps.

But people *do* care when a major highway caves in due to disrepair, paralyzing part of the transportation system of a major city.

People *do* care when a water storage system is so archaic and overtaxed that the slightest trauma causes it to collapse, leaving thousands without running water.

People *do* care, when for lack of adequate roads and water facilities, major industries move away from the community, leaving hundreds without jobs.

In an era of competition for limited public resources, it has become expedient for public officials to delay necessary capital improvements, to eliminate expenditures for maintenance, and allocate these funds to other, more immediate needs.

But, inexorably, hundred-year-old water lines are quietly deteriorating, bridges and roadways are approaching the end of their designed life, and changes in population patterns are placing enormous stress on systems in high-growth states.

When a system that all citizens rely upon and take for granted collapses, or is inadequate to meet future needs, the impact is far greater than an engineering problem in search of a solution. It creates a sense of public unease, a belief that society is incapable of handling its most basic needs. In this sense, people *do* care, very passionately, about the state of the nation's infrastructure. And in referenda this past fall across the country, people showed they cared by voting at the ballot box for a near record proportion of capital programs to develop and rebuild their life support systems.

Yet, the inability to adequately address the infrastructure needs of the nation constitutes a major problem that seriously threatens our economic and physical well-being.

But, inexorably, hundred-year-old water lines are quietly deteriorating, bridges and roadways are approaching the end of their designed life, and changes in population patterns are placing enormous stress on systems in high-growth states.

With virtually every level of government facing either major revenue shortfalls or significant unmet needs, the temptation to further postpone addressing this situation is great. It is time to measure the need, to understand that investment in our capital stock must be a priority to help keep our economy competitive and sustain our quality of life, to support the efforts of state and local governments to mobilize and finance infrastructure programs and to define what the role of the federal government in this national effort should be.

This report suggests that some hard choices have to be made, today, about meeting our nation's infrastructure needs of the future. There's a bill coming due. We should start to pay now, or we'll have to pay a lot more later.

A MANAGEABLE CRISIS

That a substantial portion of the nation's basic, publicly-financed infrastructure systems is inadequate is no longer a matter of debate.

Some observers, defining the problem at its most extreme, place the costs of restoring and expanding the current network of systems as high as three trillion dollars ($3,000,000,000,000), a figure so enormous as to make the entire problem seem absurd.

The assumption behind the recommendations in this study is that *the nation which built the greatest network of roads and waterworks in the world has not suddenly become incapable of maintaining and improving such a system.*

By setting priorities, by defining the problem in realistic terms, by utilizing the resources of federal, state and local governments, and by invoking the historic partnership between public and private sectors that helped build this great system, an approach to dealing with the revitalization of our infrastructure can be developed that is neither prohibitively expensive nor unmanageable.

This report has made no attempt to minimize the scope of the problem. *But it has also not minimized the creativity and resources available to develop a long-range, workable solution.*

The bottom line is that the problem is solvable, that the solutions are manageable, and that the time to start is now.

THE SCOPE OF THE PROBLEM

This report, two years in the making, is not the first to address the nation's infrastructure needs. It breaks new ground, however, because of its focus on state and regional needs and because of its effort to aggregate these needs into national totals through the year 2000. The report clearly demonstrates that infrastructure problems are common to *all* regions of the country.

The bottom line is that the problem is solvable, that the solutions are manageable, and that the time to start is now.

To obtain this state and regional viewpoint, twenty-three states were studied to determine their current levels of needs and expenditures in four key areas: wastewater collection and treatment, water supply and delivery, roads and bridges, and other transportation facilities (mass transit, airports, etc).

Additionally, the states were surveyed concerning their future needs, up till the year 2000, and their projected capital sources.

The results of this survey pointed to several noteworthy conclusions:

1. The problem is *national in scope.* It is not limited to any region or state.
2. The problem is *manageable.*
3. The problem requires *state and local governments to continue to assume primary management and funding responsibilities.*
4. The problem requires a *long-term response and commitment by the federal government.*

A NATIONAL PROBLEM

The total national infrastructure gap between revenues and needs through the year 2000 is over $400 billion. It stems from many different kinds of problems in the various states and regions. For example:

- In Oklahoma, water from the Ogallala Aquifer is being consumed for agricultural use faster than nature can replenish it.
- In Maine, 63 per cent of the highways are determined to be in need of immediate improvements.
- In Alabama, 53 per cent of the county maintained bridges are structurally deficient or functionally obsolete.
- In Oregon, only 14 per cent of the population is served by facilities providing secondary wastewater treatment.

In state after state, the immediate and projected infrastructure needs are considerable, and the gap between capital expenditures and capital needs is growing.

Clearly, we are witnessing a problem that is national in scope.

But within each region, and even within each state, the needs and the scope of the problem differ significantly.

In many of the older industrial areas of the nation, deterioration and obsolesence of existing systems threaten the opportunity for long-term economic revitalization.

For the rapidly-growing areas, the infrastructure gap stems from the demands placed by an ever-growing population.

But while the problems may differ, the gap between needs and financial resources in all areas of the country is substantial.

In state after state, the immediate and projected infrastructure needs are considerable, and the gap between capital expenditures and capital needs is growing.

PROJECTED U.S. INFRASTRUCTURE NEEDS, RESOURCES AND SHORTFALLS/ 1983-2000

(in billions of 1982 dollars)

	NEEDS	RESOURCES	SHORTFALLS
HIGHWAYS AND BRIDGES	$ 720	$455	$265
OTHER TRANSPORTATION	178	90	88
WATER SUPPLY AND DISTRIBUTION	96	55	41
WASTEWATER COLLECTION AND TREATMENT	163	114	49
TOTALS	$1,157	$714	$443

Transportation

The single most dominant need across the country is for investment in highways and bridges. The construction of much of the nation's highway network over the last several decades has been funded largely by the federal government. However, much of the nation's highway mileage is not on the federal-aid highway system and responsibility for reconstruction and maintenance of the entire network has largely been shouldered by state and local governments. This total highway network is aging. The needs facing state and local governments are growing, as evidenced by the fact that more than one half of the nation's two million miles of paved roads require immediate attention and over one third of the Interstate highway system is in need of repair.

While the nation's highways show substantial need, bridges pose an especially serious problem. Of the nation's 565,000 vehicular crossings, some 45% are either deficient or obsolete. These problem bridges exist throughout the country. The Federal Highway Administration estimates that in 34 states at least one third of the bridges require substantial renewal.

As a result, the projected highway and bridge needs through the year 2000 approach $720 billion. Even though federal and state gas tax levies have been increased in recent years, the projected shortfall is estimated at $265 billion.

Of the nation's 565,000 vehicular crossings, some 45% are deficient or obsolete.

On a regional basis, the greatest highway needs are projected for the Midwest. But the needs in all regions are substantial.

An increasing number of communities around the nation are looking to existing or planned public transportation facilities to move high volumes of people to growing business areas, both as a way to reduce highway congestion and to support economic development efforts. Costs here are also high and resources scarce.

...communities around the nation are looking to...public transportation...as a way to reduce highway congestion and to support economic development efforts.

Water Supply and Distribution Systems

Developing reliable expenditure figures for water storage, treatment and distribution is complicated by the variety of entities providing these services. In New Jersey, for example, a large share of the responsibility for water delivery is assigned to private water companies. Washington State has over 8000 separate water systems, while Massachusetts has 363 separate water supply systems, of which 68 are private companies, 78 are fire and water districts, and 217 are municipal water departments.

Regardless of the type of organization relied upon, certain common problems were identified:

- Deterioration of water supply and distribution systems
- Inadequate sources of water supply
- Overdrafting of underground aquifers
- Contamination of water supply
- Inadequate treatment facilities.

Overall, water needs are projected to be nearly $100 billion through the year 2000, suggesting a shortfall in available capital of more than $40 billion.

On a regional basis, increasing water supply is the predominant concern of the South-Central and Western regions, while the Northeast and Midwest need to protect their supplies and rebuild aging distribution systems.

Wastewater Collection and Treatment

Since the passage of the Federal Water Pollution Control Act of 1972, the Environmental Protection Agency has been actively involved in assessing sewerage collection and treatment needs.

EPA's assessment process categorizes both backlogged needs (cost required to deal with existing pollution problems) and year 2000 needs (based on future population growth). Many states rely on EPA-derived figures to determine their sewerage treatment needs. Several states, however, believe that the EPA evaluation method may understate the dimension of the problem since all categories of need are not necessarily included.

Based on the figures reported by the states, the overall national need by year 2000 is projected at nearly $165 billion, and the anticipated shortfall in the neighborhood of $50 billion.

The greatest needs to accommodate today's population are in the Northeast and Midwest regions, but the population growth in the West and Sunbelt states is increasing the pressure to expand capacity in those areas.

Upper photo: Overdrafting of ground aquifers can result in the calamity of subsidence.

Lower photo: Inadequate sewage and stormwater collection systems often cause backups and destructive flooding conditions.

THE STATES' DILEMMA

While all the states surveyed projected substantial revenue shortfalls to meet their specific infrastructure problems, their abilities to cope with these challenges differ significantly.

At the most basic level, many states are only beginning to devise a coherent, comprehensive approach to identifying their capital needs and developing a plan to meet these demands.

Capital planning is further complicated by restrictive laws and regulations governing each state as well as by constraints imposed by the federal government.

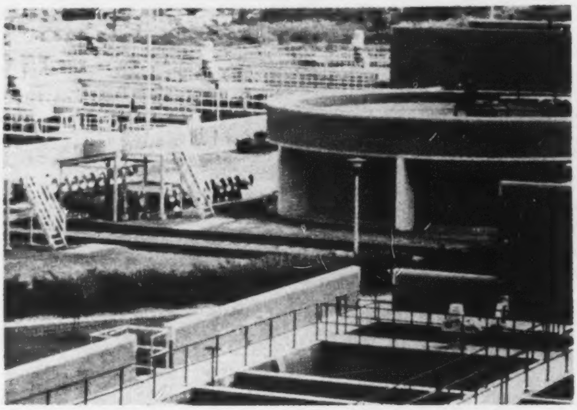
Some examples:

- Many states have statutory or constitutional debt and tax limitations that constrain funding available for long-term projects.
- Ambiguity about the federal government's role in infrastructure development impedes efficient infrastructure planning and development strategies.
- Uncertainty about proposed modification of tax-exempt bond mechanisms makes it difficult to develop cost-effective financing strategies for capital construction.

One important problem is the varying capacity of states to cope with their infrastructure problems due to the health of their local economies. This creates a Catch-22 effect. Many state and local governments that could benefit most from economic development opportunities by building more efficient transportation, water and wastewater systems lack the fiscal capacity to initiate these projects on their own.

To solve this dilemma, it will take the collective effort of all levels of government and the private sector to put in place the necessary planning and financing mechanisms.

Many state and local governments that could benefit most from economic development opportunities by building more efficient transportation, water and wastewater systems lack the fiscal capacity to initiate these projects on their own



THE FEDERAL RESPONSE

BRIDGE
CLOSED

...federal assistance is appropriate when state and local governments by themselves have insufficient capital capacity to finance infrastructure projects that are essential to fulfilling national goals...

State and local governments should, and undoubtedly will, continue to have the primary role in infrastructure management, financing and development. But it must be recognized that the federal government, by setting construction standards, by co-financing projects, by setting tax policy, and by defining needs, to a large extent influences the options available to the states.

And from the states' perspective, the federal government's policies toward infrastructure development are a source of considerable uncertainty and confusion.

With these considerations in mind, the Advisory Committee proposes that Congress address the question of federal infrastructure policy using the following guidelines:

1. Federal policy should recognize the inter-relationship between infrastructure development and the attainment of national economic goals.

In other words, federal assistance is appropriate when state and local governments by themselves have insufficient capital capacity to finance infrastructure projects that are essential to fulfilling national goals concerning economic competitiveness, productivity and basic quality of life.

2. Federal policy should recognize the implications of federally-initiated mandates for state and local governments.

The federal government sets standards in areas like clean water and interstate highway maintenance. Fairness suggests that the federal government continue to play a role in providing financial assistance in areas where the states must shoulder additional expenses to meet uniform national standards.

3. Federal policy should recognize that infrastructure problems are not confined to state boundaries.

Water pollution and traffic congestion do not respect state lines. Quite often, infrastructure problems are regional in scope and require regional solutions. Developing regional solutions is an appropriate area for federal involvement.

The Need for a Policy

Though Congress is cognizant of the infrastructure problem and has moved in several functional areas to respond, a clearly articulated, long-term federal policy on this issue would provide an improved climate for state and local infrastructure planning and investment.

The following recommendations, drawn from this study, are intended to help Congress deal with this vital issue.

POLICY
RECOMMENDATIONS

Recognizing the growing interest in Congress to address these critical national problems, and at the same time recognizing the need to live within our fiscal realities, the National Infrastructure Advisory Committee is urging Congress to consider four basic recommendations for modifying the current federal approach to infrastructure development. These recommendations are designed to expand the resources available for infrastructure and to improve our ability to manage capital programs at all levels of government.

- **RECOMMENDATION I:** Congress should establish a "National Infrastructure Fund" to supplement resources available under existing federal, state and local infrastructure capital programs.

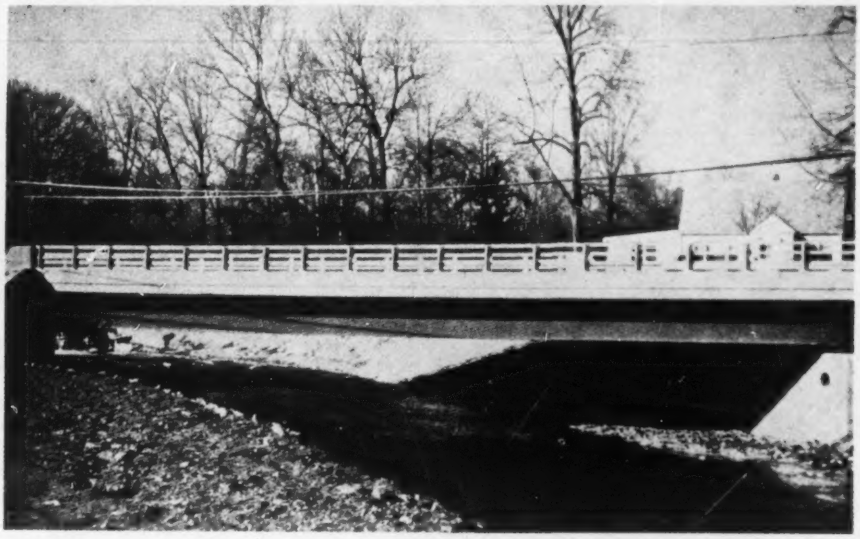
- **RECOMMENDATION II:** Congress should mandate the creation of a coordinated national infrastructure needs assessment program and, within the unified budget, require that capital expenditures be presented and highlighted in a clear, comprehensive way.

- **RECOMMENDATION III:** Congress should initiate a review of technical standards now governing construction of the nation's roads, bridges, transit systems, water and wastewater facilities.

- **RECOMMENDATION IV:** Congress should carefully re-evaluate the statutory and administrative rules that govern the use of existing federal infrastructure assistance programs.

Implementation of these four recommendations would pave the way for an effective partnership between the federal government and state and local governments to meet the infrastructure challenge and enhance the competitiveness of the national economy between now and the year 2000.

National Infrastructure Fund capital resources could be used to help rehabilitate existing infrastructure . . .



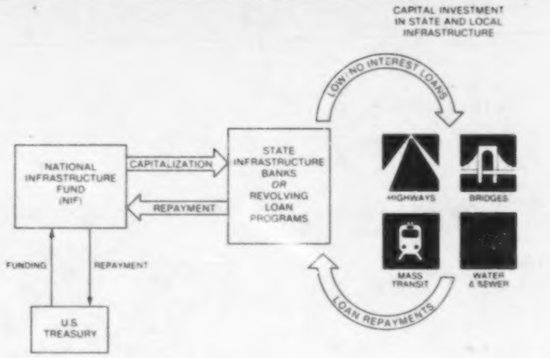
RECOMMENDATION I: CREATING NEEDED CAPITALIZATION MECHANISM

The infrastructure capital needs identified by the National Infrastructure Study are significantly larger than the resources expected to be available. Therefore, any realistic approach to meeting these needs will invariably require an increased level of commitment from all levels of government. Within that context, the Advisory Committee examined a number of different approaches for increasing the level of federal financial support. They ranged from simply increasing the level of current grant programs to encouraging innovative public/private mechanisms to establishing new funding partnerships with state and local governments. (Some of these approaches have already been presented to Congress in previous sessions and deserve further consideration.) The approach most favored by the Advisory Committee calls for the creation of a new National Infrastructure Fund.

National Infrastructure Fund (NIF)

The use of tax-exempt bonds and pay-as-you-go financing are the traditional methods by which state and local governments fund capital construction programs. These financing methods, however, are not adequate to meet current infrastructure needs, not to mention the challenge of the future projected needs described in this report. Increasingly, state and local government capital budgets are strained by competing demands, high real interest rates, statutory and constitu-

NATIONAL INFRASTRUCTURE FUND


CAPITAL INVESTMENT IN STATE AND LOCAL INFRASTRUCTURE
LOW/NO INTEREST LOANS
NATIONAL INFRASTRUCTURE FUND (NIF)
CAPITALIZATION
REPAYMENT
STATE INFRASTRUCTURE BANKS OR REVOLVING LOAN PROGRAMS
HIGHWAYS
BRIDGES
MASS TRANSIT
WATER & SEWER
FUNDING
REPAYMENT
U.S. TREASURY
LOAN REPAYMENTS

tional debt limitations and, in some instances, the realities of fiscal capacity. New ways of raising capital funds have to be found.

A new federally-chartered National Infrastructure Fund would raise money by selling taxable bonds directly in the private market or through the Federal Financing Bank. It would leave undisturbed the financial resources of the tax-exempt capital market. Congress would determine NIF's ultimate size and scope.

The revenue created would be used to capitalize state infrastructure financing institutions, such as state infrastructure banks. These entities would then provide funds to support state and local infrastructure programs.

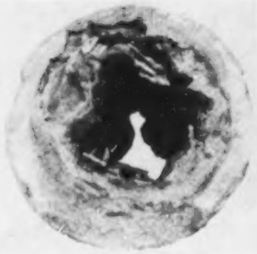
If Congress provided for the payment of interest on the NIF debt, then NIF could provide the states with interest-free capital. States could then finance, on a revolving fund basis, specific infrastructure projects chosen by state and local officials from among eligible infrastructure categories, e.g., roads, bridges, mass transit, water and sewer. The actual assistance could be accomplished in a variety of ways, using a range of interest rates or other financing mechanisms.

The capital provided by NIF ultimately would be repaid by state and local governments from taxes or user fees. But until the bonds issued by NIF came due for repayment, state and local government units could recycle NIF capital to fund additional projects.

Because state and local governments would ultimately provide the funds to repay the NIF debt, the primary cost to the federal government would be the payment of the interest expense. And as this debt would not be tax-exempt, the federal treasury would not be deprived of taxes on the interest paid.

This approach would permit a large program of infrastructure projects to be financed within the constraints of the federal budget. It would provide the nationwide infrastructure effort with a sustained, predictable multi-year level of federal financing.

...or NIF could finance new infrastructure for rapidly growing areas.



Clogging of pipes and spalling of bridge support piers are two forms of infrastructure deterioration that go unnoticed by most.

RECOMMENDATION II: BUILDING AN ASSESSMENT AND CAPITAL BUDGETING CAPACITY AT THE FEDERAL LEVEL

A major obstacle to developing a coherent approach to solving the infrastructure problem is that no one has known, with any degree of accuracy, the magnitude and nature of the needs nor the extent of the resources devoted to capital development programs. No forum currently exists for examining and debating, in a comprehensive way, how the federal government should support capital construction efforts and how the need for capital infrastructure investment should weigh against other claims on the public fisc.

For example, current budgeting practices hide direct and indirect federal infrastructure contributions, blur federal infrastructure objectives, and make it difficult, if not impossible, to assess the full impact of federal actions in this area. The extremely fragmented information base at all levels of government further compounds this situation.

As one would expect, these circumstances inhibit implementation of coordinated and efficient management and investment strategies at the federal level. They also make it difficult for state and local governments to mesh their short and long range plans with federal infrastructure actions.

How can we develop improved federal capacity? The Advisory Committee recommends the creation of a national infrastructure inventory and assessment process and the preparation of an annual analysis of federal capital expenditures.

Assessing Needs

The findings of this study on state and regional needs are considered threshold estimates, a base on which to build a continuing and more refined national assessment process.

The type and quality of available data gathered during this study varied considerably as did state-by-state definitions of needs and resources.

To establish a truly consistent measure of needs on a national scale, common definitions and consistent methodologies will be needed. Congress should foster development of a national assessment process that can accurately and continuously monitor changing needs and changing circumstances.

Within the context of basic national criteria, state-by-state information should be collected on a regular and systematic basis and provided to the Congress in the form of an annual infrastructure audit.

Federal Budget Capital Expenditure Analysis

No easy, clear way now exists to measure the full extent of federal commitment to infrastructure investment. The federal government, through a variety of investment strategies, provides considerable support for infrastructure development. But it is impossible to determine which approaches are most effective. The Advisory Committee urges Congress to assure that capital expenditures are separated from current operation outlays within the unified federal budget. Congress can then debate and set capital priorities clearly and deliberately.

This would be the first step in a process of analyzing federal infrastructure expenditures within the context of the overall capital policy objectives established by Congress.

This is not a new concept, but it has yet to be implemented. Failure to put the federal budget in a more rational, understandable order will limit the ability of state and local governments to define and move forward with their own infrastructure strategies.

Undermining of roadways can occur without warning and lead to major disruptions.

RECOMMENDATION III: RE-EVALUATING STANDARDS

In order to participate in most federal-aid programs for capital infrastructure development, states and localities must comply with stringent federally-mandated technical construction standards. In many cases, they stretch out construction schedules and add to costs.

Perhaps this is appropriate when the "Feds pick up the bill." But in some situations these standards appear unreasonable and unrelated to local needs. Unquestionably, they have an impact on the overall cost of a given construction project.

The historical development of these federal infrastructure standards, while in the health and safety interests of the nation, has been determined more by interested professional groups than by consumers.

Concern for public safety, quite properly, has to be a principal justification for these mandated standards. But weight should be given to other considerations such as the economic, social and environmental costs.

The Advisory Committee urges Congress to initiate a comprehensive study of federal standards governing development of basic infrastructure programs, using a prestigious and neutral body such as the National Academy of Sciences.

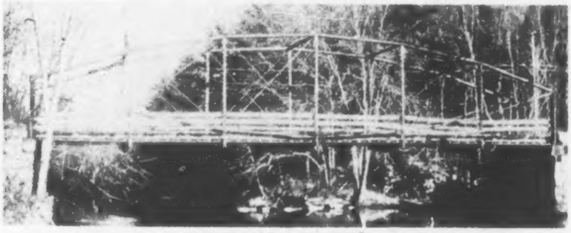
The study would measure the relevance of current mandated standards in light of changing social values and real resource constraints.

The study should:
- inventory federal standards in key infrastructure categories;
- analyze the relationship of these standards to those employed by state and local governments;
- evaluate the impact these standards have on the costs of infrastructure projects; and
- analyze the opportunity costs as well as the health, safety and environmental risks associated with reducing or changing standards.

The bill for infrastructure development is high enough without having to pay for facilities which are designed to standards which may no longer be appropriate. This undertaking might help reduce the gap between state and local needs and anticipated revenues.

Concern for public safety ... has to be a principal justification for these mandated standards.

But weight should be given to other considerations such as the economic, social and environmental costs.



RECOMMENDATION IV: DEVELOPING MORE FLEXIBLE GRANT PROGRAMS

In the course of developing these recommendations, the members of the Advisory Committee listened to the concerns of many governors and mayors. A common theme was the need for a review of the guidelines and laws governing existing federal grant programs.

Clearly, many would prefer maximum flexibility with respect to the use of federal funds. Some of the concerns expressed included:

–"We should not be limited to historically defined infrastructure categories...we should be able to use the total provided in a manner responsive to our needs and priorities and not Washington's."

–"We cannot use some grant programs easily as loans. We cannot allocate funds in some programs to readily leverage private sector monies...We are pressured to use or lose funds."

–"While we have more flexibility than in the past...federal infrastructure programs...still favor construction over maintenance activities."

Faced with these expressions of frustration and concern, an important strategy for Congress to consider would be a re-examination of the statutory and regulatory constraints inhibiting efficient state and local government use of existing infrastructure assistance programs. This could help to move projects faster and thus lower overall costs.

In an era of scarce resources at all levels of government, easing the restrictions on the use of these funds, within general statutory guidelines, could free up existing funds and increasingly allow them to be used to address state and local priorities.

The Advisory Committee has endorsed the general principle that state and local governments should be permitted greater latitude with respect to the use of existing grant funds.

...federal infrastructure programs...still favor construction over maintenance activities.

"Safe-harbor" leasing of transit vehicles provided substantial and sorely needed benefits to many public transportation operators.

SOME THOUGHTS ABOUT TAX REFORM

State and local governments rely principally on funds raised through the tax-exempt market to finance capital infrastructure investments, using general obligation bonds, revenue bonds and industrial development bonds (IDBs). In recent years, Congress has become increasingly concerned about the growing use of IDBs for what may be considered private purposes. Legislation is currently under consideration that not only would severely restrict the use of IDBs for all purposes but would place arbitrary "cap" limitations on tax-exempt issues.

The Advisory Committee believes that it is desirable to limit the use of tax-exempt bonds to truly legitimate public purposes. In this context, however, no arbitrary restrictions should be placed on the scope, dollar value or character of tax-exempt issues that clearly respond to public policy concerns, particularly those related to the provision of basic infrastructure.

STATE AND LOCAL CONSIDERATIONS

The dominant focus of this report has been on changes to federal infrastructure policy.

But this report would be less than complete if it did not acknowledge some of the areas where state and local governments could improve the way they approach infrastructure investment.

Many of the states are suffering from unrealistic and overly-constrained attempts to manage budget issues through the use of across-the-board tax or budget limitations. If the states are going to meet their long-term infrastructure needs, they are going to have to develop appropriate long-term financing strategies, and not expect to solve infrastructure problems with year-by-year, "quick fix" remedies.

Similarly, if the states are going to fulfill their side of the federal-state partnership, they are going to have to augment their capacity to inventory and analyze their own infrastructure needs, and to define and carry out coordinated and innovative capital investment and maintenance programs.

The bottom line is that the infrastructure needs of the nation through the year 2000 are enormous. Local, state and federal governments owe it to the public to address the problem as realistically and efficiently as possible. The stakes are too high to allow any less.

Those living downstream from aging dams face potential disaster.

Local, state and federal governments owe it to the public to address the problems as realistically and efficiently as possible. The stakes are too high to allow any less.

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